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FUNGUS

OFFICIEEL ORGAAN VAN DE NEDERLANDSE MYCOLOGISCHE VERENIGING

REDACTEUR: Dr R. A. MAAS GEESTERANUS * RIJKSHERBARIUM * LEIDEN

TAXONOMICAL NOTES ON MOLLISIACEOUS FUNGI

II. Some caulicolous Mollisia species inhabiting various hosts, mainly Compositae

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In this paper a study has been made on a number of *Mollisia* (resp. *Pyrenopeziza*) species occurring on dead, previous year's stems of various plants, mainly *Compositae*. During the work it appeared impossible to restrict the attention to the last named hosts, since a number of species dealt with in this paper are polyphagous, inhabiting also plants of quite other families viz., *Polygonaceae*, *Plantaginaceae*, *Liliaceae* and *Rosaceae*. This being the case, care was taken to ensure the correct identification of the host in order to obtain an idea of the number of species the fungus lives on. If the host could not be identified with certainty, the specimens collected were omitted.

Since a number of species have been found to grow on various hosts, I rather incline to the view that the theory of monophagy once advocated by Nannfeldt (1932) needs correction. It is believed, on the contrary, that many more species will prove to be polyphagous as soon as we shall have more data at our disposal.

A number of *Mollisia* species have been cultivated on maltagar by means of naturally ejaculated ascospores. In general, these fungi grow rather slowly, forming a greyish mycelium. It seems, for the time being, impossible to distinguish them in the vegetative state. A few of them, however, developed quite mature apothecia in vitro. It is highly desirable to make a detailed study of such apothecia in culture in order to investigate their variability, since most probably the same species have been described under various names.

Original descriptions published in books which are less easily accessible are copied. If not stated otherwise, material of the specimens treated is in the author's herbarium. Bracketed symbols denote abbreviations of the following herbaria: (BM) – London, British Museum; (G) – Genève, Herbarium Barbey-Boissier; (K) – Kew, Herbarium; (L) – Leiden, Rijksherbarium; (PC) – Paris, Muséum National d'Histoire Naturelle, Laboratoire de Cryptogamie; (S) – Stockholm, Riksmuseum; (UPS) – Uppsala, Universitetets Botaniska Museum.

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Key to the species treated in this paper

1a. Ascospores up to 20 μ long 2
2a. Ascospores up to 15 μ long 3
3a. Exciple without cell-projections 4
4a. Exciple with greenish tints (yellowish green to greenish brown) 5
5a. Excipular cells angular, up to the margo with groups of dark brown, flattened cells . . . . . 8. *M. solidaginis*
5b. Excipular cells roundish or angular, up to the margo without groups of dark brown cells . . . . . 3. *M. plantaginis*
4b. Exciple without a trace of greenish tints 6
6a. Exciple reddish brown, excipular cells roundish or pear-shaped, cortex not verrucose . . . . . 2. *M. revincta*
6b. Exciple light brown, excipular cells angular, cortex somewhat verrucose . . . . . 5. *M. cirsiicola*
3b. Exciple with cell-projections 7
7a. Cell-projections colourless 8
8a. Apothecia laterally with filiform excrescences . . . . . 1. *M. artemisiae*
8b. Apothecia marginally with club-shaped excrescences . . 9. *M. adenostylidis*
7b. Cell-projections brown 9
9a. Apothecia laterally with excrescences in short chains . . . . 4. *M. stellata*
9b. Apothecia marginally with finger-shaped or clavate cells . . . . . 10. *M. depressuloides*
2b. Ascospores longer than 15 μ 10
10a. Exciple light brown, ascospores 2-celled . . . . . 6. *M. leucostoma*
10b. Exciple dark brown, ascospores 1-celled . . . . . 7. *M. carduorum*
1b. Ascospores longer than 20 μ 11
11a. Ascospores 20–25 μ long . . . . . 11. *M. pyrenocarpoides*
11b. Ascospores 25–30 μ long . . . . . 12. *M. arctii*

1. **Mollisia artemisiae** (Lasch) Gremmen **comb. nov.** – *Peziza artemisiae* Lasch in Rabh. Handb. **1**: 344. 1844 – *Pyrenopeziza artemisiae* (Lasch) Rehm, Krypt. Fl. **3**: 616. 1896 – *Pl. I, fig. A.*

Type: *Peziza artemisiae* Lasch, Rabh. Herb. Myc. 1, 335, in Rijksherbarium, Leiden.

Exsiccata: Klotzsch, Herb. Viv. Myc. (335), *Peziza artemisiae* (L); Rabh. Herb. Myc. II, 623, *Peziza artemisiae* (L); Rehm, Ascomyceten 66, *Pyrenopeziza artemisiae* (L); Rehm, Ascomyceten 69b, *Pyrenopeziza artemisiae* (S); Sydow, Myc. Germ. 2535, *Pyrenopeziza artemisiae* (L).

Original description: "2636. *P. artemisiae*, *Artemisia* = B. hervorbrechend, dünnfleischig, fast gestielt; Becherchen anfangs kreiselförmig, dann verflacht, etwas gerunzelt, nackt, braunschwärzlich, mit weisslicher Scheibe und eingebogenem Rande. An abgestorbenen Stengeln von *Artemisia vulgaris*, in der Neumark um Driesen (Lasch)."

Description of the type: Apothecia in groups on the substratum, black when dry, greyish when moistened, about 500 μ across. Excipulum consisting of textura globulosa, 40–100 μ at the base, 20–40 μ at the sides, brown. Footstalk sometimes clearly visible, consisting of numerous small, roundish or angular, brown cells with a diameter of about 3–4 μ. Excipular cells brown, angular or somewhat roundish, small, 4–8 μ both in the basal and lateral part of the exciple. Cortex of the exciple covered with numerous, colourless cell-processes. Asci 41.8–53.2 × 3.8–4.7 μ. Ascospores 8.5–9.5 × 2 μ, colourless, 1–celled, sometimes 2-celled. Paraphyses colourless, filiform, 1.5 μ thick.

Supplementary description: Apothecia 500–1000 μ in diam., normally characterized by small excipular cells, generally forming 7–8 rows in the basal part of the exciple. Colourless processes on the cortex of the exciple 10–20 μ long. Asci 49–57 × 4 μ; ascospores 8.6–10.7(11.4) × 2 μ (Gremmen 806).

Discussion: The type was received from the Rijksherbarium and carries number H.L.B. 910. 237–453. Although part of the label seems to have been cut off and the remainder bears no indication that the packet belongs to Rabenhorst, Herb. Myc. ed. 1., it does mention "335 *Peziza artemisiae* Lasch. Ad caules *Artemisia vulg.* Driesen." This is sufficient evidence that the material actually is the exsiccatum as distributed by Rabenhorst. As yet unaccountable is the fact that a strip mentioning "Herb. Vivum Mycologicum J. F. Klotzsch" has been added to the label. Some confusion is liable to occur since there exists another collection of Herb. Viv. Myc. J. F. Klotzsch, also numbered 335. In this case, however, the number is in parentheses, whereas the data are entirely different.

While studying the exsiccata cited above, it was noticed that in this species, too, there exists a certain variability in the thickness of the basal part of the exciple and in the diameter of the excipular cells. Sometimes the filiform cell-excrescences are not clearly visible as e.g. in Rehm 69b. Two definite groups could be distinguished viz. Sydow 2535 and Rehm 66 with rather large excipular cells, and Rehm 69b (fig. A, 1), Rabenh. 335, Rabenh. 623, Gremmen 633 (fig. A, 3) and Gremmen 806 (fig. A, 2) with much smaller ones. Up till now this species has only be reported from *Artemisia vulgaris* and it seems to be monophagous indeed.

Gelderland: Wageningen, "Kleine Veer", 28 V 1949, *Gremmen 806*, on previous year's stems of *Artemisia vulgaris*; Wageningen, langs de Rijn, 19 IX 1949, *Gremmen 633*, on dead, previous year's stems of *Artemisia vulgaris*.

2. **Mollisia revincta** (Karst.) Rehm, Krypt. Fl. 3: 1264. 1896.

The type of this species was described from *Ulmaria*, but the fungus was also reported from *Rubus* species (Gremmen, 1954). Later on the species appeared to inhabit a number of *Compositae* as well, so its polyphagous nature is proved beyond doubt now. Very small differences are often observed in this species, but there is reason to believe that these should be ascribed to various stages of development of the fungus.

Gelderland: Bennekom, Kraats, 4 VIII 1953, *Gremmen 767*, on previous year's stems of *Centaurea jacea*; Wageningen, "De Dorschkamp", 21 VII 1954, *Gremmen 763*, on previous year's stems of *Achillea millefolium*; 9 VIII 1954, *Gremmen 770*, on previous year's stems of *Hieracium umbellatum*; 20 X 1954, *Gremmen 819*, on previous year's stems of *Eupatorium cannabinum*; Wageningen, Eng, 9 VIII 1954, *Gremmen 771*, on previous year's stems of *Tanacetum vulgare*; 19 VIII 1954, *Gremmen 773*, on previous year's stems of *Achillea millefolium*.

Utrecht: Rhenen, "Grebbe", 16 IX 1951, *Gremmen 787*, on previous year's stems of *Centaurea jacea*.

3. **Mollisia plantaginis** (Fuck.) Phill. Man. Brit. Discom. 183. 1887 – *Pyrenopeziza plantaginis* Fuck. Symb. Myc. 294. 1869–1870 – *Peziza atrata* var. *foliicola* Desm. Ann. Sci. Nat. sér. 2. Bot. 368–369. 1843.

Type: *Pyrenopeziza plantaginis* Fuck. in Herbarium Barbey-Boissier, Genève (non vidi).

Exsiccata: Desmazières, Crypt. France sér. 1, 1313, *Peziza atrata* var. *foliicola* (K); Phill. Elv. Brit. 37, *Peziza plantaginis* (BM).

Description (after Desmazières 1313): Apothecia very minute, black, 120–250 μ in diameter, developing subepidermally. Excipulum consisting of textura globulosa with a yellowish green colour, about 15 μ both at the base and the sides. Footstalk not observed. Excipular cells very small, about 4 μ in diam., angular or somewhat rounded. Cortex of exciple without cell-outgrowths. Hypothecium colourless, about 20 μ thick. Asci 38 × 7 μ, elongate-ellipsoid, sometimes 40–46 × 4 μ. Ascospores 12.5 × 2.8 μ, colourless, 1-celled, biguttulate. Paraphyses hardly discernible. On leaves of *Plantago*.

Discussion: Since Fuckel cited Desmazières' collection, it was thought useful to investigate this authentic material of which the description is given above.

A short note and a figure were published on the occasion of the successful cultivation of fully mature apothecia in vitro (Gremmen, 1952).

The species has long been a puzzling one in that its delimitation proved difficult. Desmazières' material as well as part of the author's collections show very minute apothecia about 150–300 μ across. Also Nannfeldt (1932) pictured and described such small fructifications. It appears, however, that the apothecia far from being always so small, may reach a diameter of 400–500 μ in nature and even 1000–1500 μ in vitro.

It is certain that this fungus varies a great deal and, consequently, it may have been described under different names in literature.

Especially in the fully mature stage this species shows great affinity to *M. revincta* (Karst.) Rehm. It is not always possible to segregate the latter on the base of its papillate excipular cells. In *M. revincta*, however, the ascospores measure (5.7) 7.6–9.5 × 2–2.5 μ, whereas in *M. plantaginis* they are 9.5–11.4 (15.2) × 2.8–3.0(3.5) μ. The apothecia of the latter show a tendency to a greenish brown colour, those of *M. revincta* to a reddish brown. Both fungi inhabit stems of various plants and may be considered polyphagous.

M. plantaginis is also very much related to *M. solidaginis* Karst. The latter has, however, characteristic groups of dark brown flattened cells in the marginal part.

Gelderland: Wageningen, "De Dorschkamp", 27 VIII 1951, *Gremmen 568*; 21 IX 1953, *Gremmen 710*; 20 VII 1954, *Gremmen 764*, all on dead stems of *Plantago lanceolata*; 5 VIII 1954, *Gremmen 768*, on previous year's stems of *Solidago canadensis*.

4. **Mollisia stellata** Le Gal, Rev. de Myc. 4: 60–61. 1939.

Type: *Mollisia stellata* Le Gal, in Muséum National d'Histoire Naturelle, Laboratoire de Cryptogamie, Paris.

This species is characterized by chains of brown, globular or ellipsoid cells which occur on the cortex of the exciple. It was found growing on stems of *Dahlia* (Le Gal, l.c.).

Although I had occasion to study the type, I failed to observe the chains of cells to be as long (7–9) as pictured by the author. In my slides the chains are shorter, hardly reaching 4 to 5 cells.

Zuid-Holland: Oostvoorne, duinen Natuurmonumenten, 29 V 1955, *Heybroek*, on previous year's stems of *Asparagus*, *Gremmen 1153*.

5. **Mollisia cirsiicola** Gremmen **spec. nov.** – *Pl. I, fig. B.*

Type: Gremmen 708 in the author's herbarium.

Description of the type: Apothecia primarily cup-shaped, with age flattened, 500–600 μ across, light brown. Excipulum consisting of textura globulosa, 40–50 μ at the base, about 40 μ at the sides, honey-brown. Excipular cells honey-brown, angular, 7–15 μ in the basal part, 5–10 μ in the lateral part. Cortex with a few small cell-processes and somewhat verrucose. Margo of the apothecium with bundles of colourless cells. Disc greyish to white. Hymenium about 40 μ thick, somewhat pale yellowish or hyaline. Hypothecium 26–40 μ thick, colourless. Asci $50 \times 7\ \mu$, clavate. Ascospores $9.5–11.4 \times 3\ \mu$, colourless, 1-celled. Paraphyses filled with yellowish oildrops, filiform.

Apothecia 500–600 μ lata, extrinsecus mellea. Excipulum e textura globulosa, cellulis polyedricis. Cellulae basales 7–15 μ in diam. Cellulae laterales 5–10 μ in diam. Cortex excipuli irregularis, cellulis paucis elongatis, cellulis in margine oblongis, hyalinis. Asci clavati, c. $50 \times 7\ \mu$. Sporae $9.5–11.4 \times 3\ \mu$, simplices, incoloratae. Paraphyses hyalinae, filiformes. Hab. in caulibus *Cirsii arvensis*.

Discussion: This species is closely related to *M. stellata* Le Gal, but is distinguished by its irregular, somewhat verrucose cortex of the exciple as in *Pyrenopeziza thalictri* (Peck) Sacc., for a figure of which I may refer to Graddon (1954).

Gelderland: Wageningen, "De Dorschkamp", 23 IX 1953, *Gremmen 708*, on previous year's stems of *Cirsium arvense*.

6. **Mollisia leucostoma** (Karst.) Karst. Myc. Fenn. **1**: 203. 1871 – *Trochila leucostoma* Karst. Not. Sällsk. Fauna Fl. Fenn. **2**: 245. 1870 – *Pyrenopeziza leucostoma* (Karst.) Nannf. Nov. Acta Reg. Soc. Sci. Ups. ser. 4. **8**^{2}: 153. 1932 – *Niptera leucostoma* (Karst.) Sacc. Syll. Fung. **8**: 483. 1889 – *Pl. I, fig. C.*

Type: *Niptera leucostoma* Karst. in Botanical Institute, Helsinki.

Exsiccata: Fig. Suec. 1990, *Pyrenopeziza leucostoma* (UPS).

Description of the type: Apothecia 200–450 μ across. Excipulum consisting of textura globulosa, about 30 μ at the base, with 4 or 5 rows of cells and about 20 μ at the sides, light brown. Excipular cells light brown, angular, 4–8 μ in diameter in the basal and lateral part. Up to the margo with colourless cells. Cortex of exciple without cell-outgrowths, but sometimes with a few hyphae. Disc cream. Hymenium 40–46 μ thick, colourless. Hypothecium 20–40 μ thick, colourless. Asci $53.2 \times 4\ \mu$, clavate, J+ blue. Ascospores $15.2–20.9 \times 2\ \mu$, colourless, 2-celled, needle-shaped, straight or somewhat curved. Paraphyses colourless, filiform, about 2 μ thick. On *Artemisia*.

Discussion: On the packet of the type specimen the following notes have been written: "*Trochila* cinereo-albida, siccu cinerea fuliginosa, 0.3–0.5; 42–46–50; 4.5–5.5, leucostoma; fusca, sol parcae, par in 2, guttulatae, sursum leviter in cras, poste = th. juveniles pl 20. 12–15–22.5–27 × 2–2–2.5–3; sp. ac. fus. el. rectae, vel rectiusculae eguttulatae, vulgo 1-sept. Th. fusoid, obl. minutis par. iodo vix vel obsoletis. ca. Aboae (observ.) Jun. 1869 (*Artemis*)."

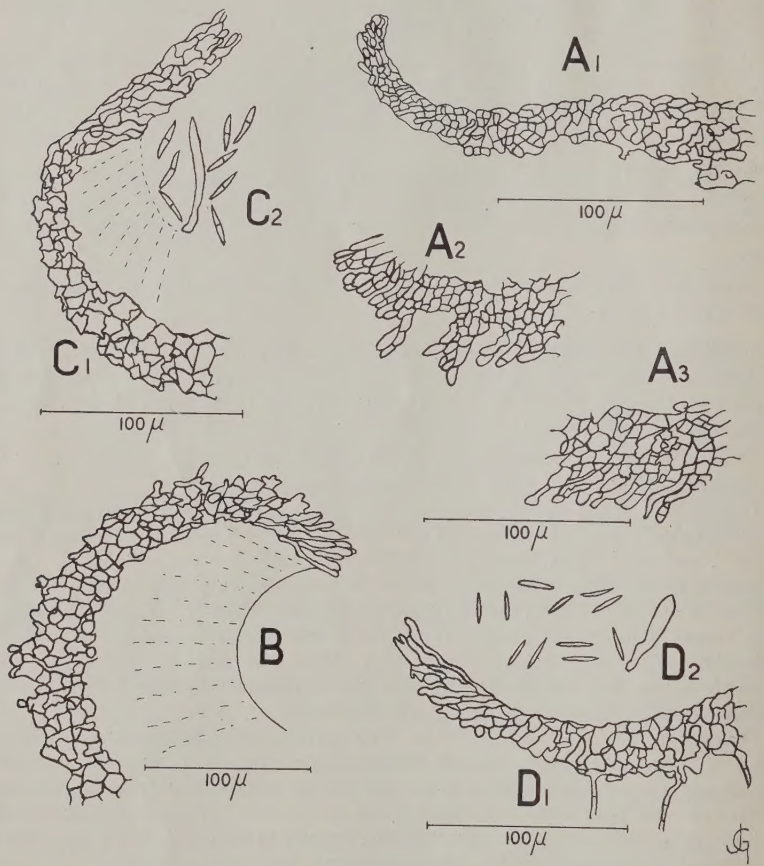
Up to the present this species has not been found in the Netherlands.

7. **Mollisia carduorum** (Rehm) Gremmen **comb. nov.** – *Pyrenopeziza carduorum* Rehm, in Winter's Diagn. u. Notiz. zu Rehm's Ascomyceten, 562. 1872 –

Niptera carduorum (Rehm) Winter, Krypt. Fl. **3**: 555. 1896 – *Ephelina carduorum* (Rehm) Rehm, Ber. Bayr. Bot. Ges. **13**: 183. 1912 – *Pl. I, fig. D.*

Type: *Pyrenopeziza carduorum* Rehm in Rehm, Ascomyceten 68 in Riksmuseum, Stockholm.

Original description: "68. *Pyrenopeziza carduorum* Rehm nov. spec. Cupulis dense gregariis vel subconfluentibus, sessilibus, extus glabris, papillatis, opaconigro-fuscis, basi pilis hyalinis, repentibus cinctis, primo globosis, margine incurvo, papillato-crenato fimbriatove, demum difformibus, apertis, planis, fere emarginatis, disco plano, incano-glauco, 0.5–1.7 Mill. latis, Ascis cylindraceis,



Pl. I – Fig. A. *Mollisia artemisiae:* 1. section of excipulum (after Rehm 69b); 2. section of excipulum (after Gremmen 806); 3. section of excipulum (after Gremmen 633). Fig. B. *Mollisia cirsiicola:* section of excipulum (type). Fig. C. *Mollisia leucostoma:* 1. section of excipulum; 2. ascus and ascospores (type). Fig. D. *Mollisia carduorum:* 1. section of excipulum; 2. ascus and ascospores (type).

sessilibus, 8-sporis, 50–65 Mikr. long., 7 Mikr. crass., paraphysibus simplicibus, filiformibus, hyalinis, rectis vel curvatis, 4–8 nucleatis, 12–19 Mikr. long., 1.5–2 Mikr. crass. Am Bodenende der stehenden, faulenden Distelstöcke einer Oedung bei Obernesselbach in Franken, 1870."

Description of the type: Apothecia in great numbers on the substratum, 700–1100 μ across, black. Excipulum consisting of textura globulosa, about 50–60 μ at the base, 20–25 μ at the sides, dark brown. Excipular cells dark brown, angular or roundish, 7–19 μ in the basal part and somewhat smaller in the lateral part. Margo without characteristic cell-outgrowths.

From the cortex many dark brown hyphae protrude, resembling cell-excrescences. Disc grey to lead-coloured. Hymenium about 40 μ thick, colourless. Hypothecium about 40 μ, colourless. Asci 46.2–57.7 × 5.8–6.7 μ, clavate. Ascospores 14.4–16.9(23.1) × 1.9–2.9 μ, colourless, 1-celled, slender, somewhat curved and with pointed ends.

Discussion: On the envelope containing the material received from the Riksmuseum the following notes were made by Rehm himself: "Amphithecium aus schwärzlichen Zellen gebildet, am Rande die Zellen etwas verlängert. Paraphysen fädig, hyalin, c. 1.5. Jod färbt die Sporen gelblig, die Spitze der Schläuche blau!, 12–15/2–2.5, 1-zellig met 2–4 gelblichen Lumina, hyalin, 8, 2-reihig in keuligen Schläuchen, 45–50 × 7–8." In addition, 4 ascospores have been drawn on the packet.

Another specimen of *Pyrenopeziza carduorum* Rehm, also received on loan from Stockholm, which was collected on *Cirsium arvense* in the Hohe Tatra near Unter-Schmecks, 1884 by Linhart (Linhart, Fgi. Hung. 379), was studied too. It is as yet impossible to identify this collection with certainty. As for the ascospores it seems quite distinct from the longer-spored *Mollisia carduorum* which I found to measure 7.6–9.5(13.3) × 1.9–2.8 μ.

Up to the present this species has not been found in the Netherlands.

8. **Mollisia solidaginis** Karst. Rev. Mon. 173. 1885 – *Pyrenopeziza solidaginis* (Karst.) Schröt. in Cohn's Krypt. Fl. Schles. 3^2: 114. 1893 – *Mollisia atrata* var. *megalospora* Ell. & Ev. North Am. Fgi. ser. 2. 2625. 1891 – *Peziza subatra* Cke. & Peck, in Peck, 28th Ann. Rep. N.Y. State Mus. 66–67. 1876 – *Pl. II, fig. E.*

Type: *Mollisia solidaginis* Karst. in Botanical Institute, Helsinki.

Neotype: *Pyrenopeziza solidaginis* (Karst.) Schröt. 1088, in Universitetets Botaniska Museum, Uppsala.

Exsiccata: Ell. & Ev. North. Am. Fgi. ser. 2, 2625, *Mollisia atrata* var. *megalospora* (K); J. B. Ellis 2543, *Peziza subatra* (K).

Description of the neotype: Apothecia 150–300 μ across. Excipulum consisting of textura globulosa, about 20 μ at the base, with 3 or 4 rows of cells, 20 μ at the sides, brown. Excipular cells brown, angular, 3-4 μ in diameter in the basal part and about 6 μ in the lateral part. Up to the margo groups of dark brown, flattened cells are present. Cortex of exciple without cell-outgrowths. Hymenium 40–46 μ thick, colourless. Hypothecium 20–24 μ thick, colourless. Asci 45.6–49.4 × 7.6 μ, clavate, J + blue. Ascospores 11.4–13.3 × 3.5 μ, colourless, 1-celled. Paraphyses colourless, filiform, about 2 μ thick, at the apex about 3 μ. On stems of *Solidago Virgaurea*, Lapponia tornensis, paroecia Jukkasjärvi, Abisko, 6 VII 1928, leg. J. A. Nannfeldt.

Discussion: The type material of Karsten was received for investigation from the Botanical Institute, Helsinki. On the packet was written: "*Trochila*, sp. elong. 55–60 obl. minut. leniter curvulae 7–8, iodo dilute coerul. guttulatae vel versimiliter in statu vivo, 1-sept. biser. Cupula (uda) concavo-plana, margine, lacerato, fibrosa, disco albido, extus fuscescens. distic 12–14–15/2.5–3–3. Prope Kola, as *Solid.* 24 VII –61, P. A. Karsten." This material proved to be useless, since apothecia are lacking. This confirms Rehm's information (1912): "Ein Originalexemplar Karstens zeigt leider keine brauchbare Fruchtschicht." It is therefore desirable to choose a neotype for which I propose Fgi. Suec. 1088, already studied by Nannfeldt (1932).

The apothecia of *Mollisia solidaginis* show great resemblance to those of *M. plantaginis* and without any doubt both species are very much related. *M. solidaginis* differs from the latter in the very dark brown cells near the margo.

Mollisia atrata var. *megalospora* (Ell. & Ev. 2625) also occurred on dead stems of *Solidago* and was found by J. Dearness on May 1890 at London, Canada. Rehm (1896. 615) considered it to be related to *Pyrenopeziza sphaerioides* (Desm.) Rehm.

Peziza subatra Cke. & Peck was found on dead stems of herbs, North Greenbush. According to Peck (l.c.) "the species is allied to *P. atrata*, *P. ebuli* and *P. sphaerioides*, but it differs in fruit and in the more fibrous structure of the cup."

The species has not as yet been found in the Netherlands.

9. **Mollisia adenostylidis** Rehm, Krypt. Fl. 3: 526. 1896 – *Pl. II, fig. F.*

Type: *Mollisia adenostylidis* Rehm, on *Adenostylis alpina* and *A. albifrons*, Bauernalpkopf (Algäu), leg. Britzelmayr (non vidi).

Authentic material: ex Herb. Rehm 49, *Mollisia adenostylidis* (S); ex Herb. Rehm 93, *Mollisia adenostylidis* (S).

Description (Rehm 93): Apothecia greyish blue, 350–700 μ across, gregarious. Excipulum consisting of textura globulosa, 20–25 μ in the basal part, thinner at the sides, brown. Excipular cells brown, globular or somewhat angular, 2 or 3 rows of cells in the basal part, with the cells 7–11 μ in diameter. Cortex of exciple laterally with pear-shaped or globular cell-projections. Up to the margo with club-shaped, hyaline or light coloured cells. Hymenium about 60 μ thick, colourless. Hypothecium 26–38 μ thick, colourless. Asci 50–53 $\times$ 4 μ, clavate, J + blue. Ascospores 9.6–11.5 $\times$ 1.3–1.5 μ, colourless, 1-celled with rounded or pointed ends. Paraphyses colourless, filiform.

Discussion: As was kindly informed by Dr Sten Ahlner, the type of the species is not preserved in the Rehm Herbarium at Stockholm. Instead of it the above mentioned numbers were received. The sheet of number 93 bears the following short notes: "93 *Mollisia adenostylidis* Rehm: Sporen gerade, 1-zellig, farblos, 10–11/1.2, 8, in keuligen Schläuchen 40/4, Paraphysen fädig, farblos, J +. Gehäuse parenchymatisch, braun, in stumpf, bräunliche 40/8-9 Fasern auslaufend. An *Senecio Fuchsii*, bei Neuschwannstein. leg. Ade. 15 VII 08."

Another collection bearing number 49 was found on 15 XII 08 on *Rumex alpinus*.

Mollisia adenostylidis shows great affinity to *M. revincta* with regard to the structure of the exciple, differing from the latter in the characteristic club-

shaped cell-processes occurring in the lateral part, as well as in the measurements of ascospores.

Up to the present *M. adenostylidis* has not been found in the Netherlands.

10. **Mollisia depressuloides** Gremmen **spec. nov.** – *Pl. II, fig. G.*

Type: Gremmen 807 in the author's herbarium.

Description of the type: Apothecia primarily cup-shaped, afterwards flattened on the substratum, 700–800 μ across, black. Excipulum consisting of textura globulosa, 40–80 μ at the base, about 40 μ at the sides, dark brown. Excipular cells dark brown, angular, 7–15 μ in the basal part, 7–12 μ in the lateral part. Margo with olive brown, clavate cells, measuring about 40 × 6 μ. Cortex of exciple with groups of olive brown cells giving this part of the exciple an uneven appearance. Disc bluish with a white rim. Hymenium about 57 μ thick, colourless. Hypothecium 27–57 μ thick, colourless. Asci 53.2 × 5.7 μ, clavate. Ascospores 7.6–11.4 × 3 μ, colourless, 1-celled. Paraphyses colourless, filiform, about 2 μ thick.

Apothecia superficialia, minuta, 700–800 μ lata, extrinsecus atrata. Excipulum e textura globulosa, badium, cellulis basalibus 7–15 μ, cellulis lateralibus 7–12 μ in diam., angularibus. Margo e cellulis clavatis, olivaceo-fusca, longit. circ. 40 μ, crassit. circ. 6 μ. Asci clavati, 53.2 × 5.7 μ. Sporae 7.6–11.4 × 3 μ, incoloratae, unicellulares. Paraphyses hyalinae, filiformes.

Discussion: This species is closely related to *Pyrenopeziza albocincta* Rehm. In this species, however, the apothecia are much larger, being up to 1800 μ across, with hyaline, marginal cell-projections, whereas the ascospores are longer, attaining (9.5) 13–14 μ.

Mollisia depressuloides, although a characteristic species, was not formerly recognized and may be found under the complex species *Mollisia atrata*.

Gelderland: Renkum, "Oranje Nassau's Oord", 23 IX 1954, *Gremmen 807*, on previous year's stems of *Arctium major*.

11. **Mollisia pyrenocarpoides** (Rehm) Gremmen **comb. nov.** – *Pyrenopeziza pyrenocarpoides* Rehm, Ber. Bayr. Bot. Ges. **13**: 175. 1912 – *Pl. II, fig. H.*

Type: *Pyrenopeziza pyrenocarpoides* Rehm, on stems of *Cirsium*, Amrum, Schleswig (non vidi).

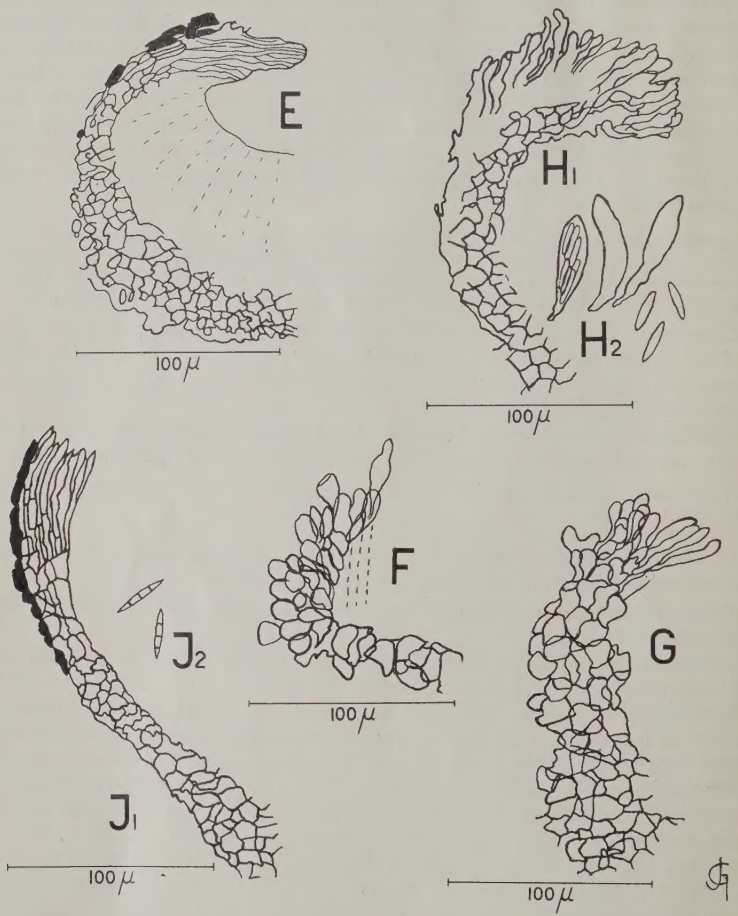
Authentic material: ex Herb. Rehm, auf *Cirsium*, Oberwöszen, in Salzkammergut, 1900, *Pyrenopeziza pyrenocarpoides* (S).

Description of Rehm's material: Apothecia about 300 μ across, black with white rim. Excipulum consisting of textura globulosa, about 25–40 μ at the base, about 26 μ at the sides, dark brown. Excipular cells dark brown, angular, 4–8 μ in diameter in the basal part and about 7 μ in the lateral part. Margo with brown cell-outgrowths often pointing somewhat outwards and resembling hairs. Cortex of exciple without cell-projections. Hymenium 45–57 μ thick, colourless. Hypothecium 18–26 μ thick, colourless. Asci 45.6–60.8 × 7.6 μ, clavate, J + blue. Ascospores 20.9–24.7 × 4 μ, colourless, 1-celled, ellipsoid, straight or somewhat curved, with rounded ends, 1- or 2-guttulate. Paraphyses colourless, filiform, about 2 μ thick.

Discussion: The type specimen is not preserved in Stockholm. The following notes have been made by Rehm himself on the packet of the material from Oberwöszen: "*Pyrenopeziza pyrenocarpoides* Rehm n. sp. Sporen gerade oder

etwas gebogen, 1-zellig, farblos, mit 2 Oeltropfen, 18–21/3.8, 8, 2-reihig, in länglichen, breitsitzenden, etwas zugespitzten Schläuchen, 60/10, Poren J +, Paraphysen fädig, farblos, 1.5. Gehäuse kleinzellig, parenchymatisch, braun, glatt." On the sheet Rehm originally referred the fungus to *Mollisia*, but afterwards crossed it out, replacing it by the name *Pyrenopeziza*.

Up to the present there is no collection of this species from the Netherlands.



Pl. II – Fig. E. *Mollisia solidaginis:* section of excipulum (neotype). Fig. F. *Mollisia adenostylidis:* section of excipulum (after Rehm 93). Fig. G. *Mollisia depressuloides:* section of excipulum (type). Fig. H. *Mollisia pyrenocarpoides:* 1. section of excipulum; 2. asci and ascospores (after Rehm's collection from Oberwöszen). Fig. J. *Mollisia arctii:* 1. section of excipulum; 2. ascospores (syntype).

12. **Mollisia arctii** (Phill.) Phill. Man. Brit. Discom. 183. 1887 – *Peziza arctii* Phill. Proc. Bristol Nat. Soc. N.S. **4**: 58. 1883 – *Pyrenopeziza arctii* (Phill.) Nannf. Nova Acta Reg. Soc. Sci. Ups. ser. 4. **8**[2]: 142. 1932 – *Belonium arctii* Sacc. Syll. Fung. **8**: 495. 1889 – *Belonidium arctii* Massee, Brit. Fl. **4**: 225. 1895 – *Pl. II, fig. J.*

Type: *Peziza arctii* Phill. in Cryptogamic Herbarium, British Museum (non vidi).

Exsiccata: Fgi. Suec., Uppsala, 4 V 1925, leg. J. A. Nannfeldt, *Pyrenopeziza arctii* (UPS).

Original description: In Bucknall's Fungi of the Bristol District the description is as follows: "Minute, scattered, sessile, at first subglobose, then expanded, the paler, serrated margin erect or connivent, externally scabrous; disc same colour; asci broadly clavate; sporidia 8, linear-lanceolate, triseptate, biseriate, .03–.045 × .003–.005 mm; paraphyses linear, stout. On *Arctium Lappa* – on the dead stems."

Description of syntype material: Apothecia 500–600 μ across. Excipulum consisting of textura globulosa, about 26–40 μ at the base, about 20 μ at the sides, light brown. Excipular cells light brown, angular, 5–10 μ in diameter in the basal part and 4–8 μ in the lateral part. Up to the margo the exciple has some flat brown cells, whereas the cortex of the exciple is sometimes furnished with a few hyphae. Hymenium 60–70 μ thick, colourless. Hypothecium 20–26 μ thick, colourless. Asci 60.8–76.0 × 7.6 μ, clavate, J + blue. Ascospores 26.6–30.4 × 2 μ, colourless, 4-celled, needle-shaped, with pointed ends, somewhat curved. Paraphyses colourless, septate, often constricted at the septum, 2–4 μ in thickness.

Discussion: Syntype material, received from the Cryptogamic Herbarium of the British Museum, was collected on *Arctium*, Blaize Castle Woods, Bristol, by C. Bucknall.

Rehm (1896), referring to Saccardo and De Notaris, described *Beloniella arctii* (Lib.) on the leaves of the same host, but gave no measurements of asci and spores.

Up till now this fungus has not been collected in the Netherlands.

Excluded species

Pyrenopeziza absinthii (Lasch) Rehm, Krypt. Fl. **3**: 625. 1896.

Authentic material: ex Herb. Viv. Myc. J. F. Klotzsch, 1317, *Peziza absynthii* (L); ex Herb. Rehm, 69, *Pyrenopeziza fusco-rubra* Rehm nov. spec. (S).

Description: Apothecia chocolate brown or reddish brown, with yellow hymenium, marginally with bundles of yellow and colourless hairs, varying from 40–70 μ in length. Exciple with a textura intricata. It cannot be regarded as belonging to the *Mollisioideae*.

Material of *Pyrenopeziza absinthii* in Sydow, Myc. Germ. 997 is not identical with the above mentioned specimens. Its exciple consists of a textura intricata and the outermost layer is provided with dark brown, somewhat clavate and septate hairs. According to Rehm (1912) it should be identical with *Urceolella absinthii* Boud., but its correct position is still uncertain.

All fungi mentioned above were collected on stems of *Artemisia*.

Summary

This second paper on Mollisiaceous fungi deals with 12 species of the genus *Mollisia*, viz. *M. artemisiae* comb. nov., *M. revincta*, *M. plantaginis*, *M. stellata*, *M. cirsiicola* spec. nov., *M. leucostoma*, *M. carduorum* comb. nov., *M. solidaginis*, *M. adenostylidis*, *M. depressuloides* spec. nov., *M. pyrenocarpoides* comb. nov. and *M. arctii*.

Only part of the species mentioned are as yet known from the Netherlands. As far as possible type specimens were studied and described.

Several species originally regarded as monophagous proved to be polyphagous which suggests that polyphagy will eventually be found in many more species whose ecology is still imperfectly known.

Acknowledgements

Through the kindness of Dr R. W. G. Dennis (Kew) I had many valuable information and advice during the course of this investigation, for which I am very obliged to him. I am most grateful for having been enabled to study types and exsiccata from the Kew Herbarium. I am greatly indebted to Prof. Dr R. Heim (Paris) for allowing me to study some *Mollisia* species in the Cryptogamic Laboratory of the "Muséum National d'Histoire Naturelle."

To the following persons I am very thankful for sending type specimens or other material of fungi discussed in this paper viz. Prof. Dr Ch. Baehni (Genève); Dr F. L. Balfour-Browne (London); Dr H. Buch (Helsinki); Dr G. Haglund (Stockholm); Dr L. Holm (Uppsala); Dr R. A. Maas Geesteranus (Leiden) and to Dr N. Malström (Helsinki).

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NIEUWE VONDSTEN VAN DISCOMYCETEN IN NEDERLAND II

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In deze bijdrage wordt wederom een aantal Discomyceten vermeld, die nieuw blijken te zijn voor de mycoflora in Nederland. Iets uitvoeriger wordt hier ingegaan op de beide geslachten *Gorgoniceps* en *Habrostictis* naar aanleiding van een aantal interessante vondsten.

Schrijver dezes is dank verschuldigd aan Prof. Dr R. Heim van het Laboratorium de Cryptogamie du Muséum National d'Histoire Naturelle te Parijs voor het uitlenen van materiaal van *Peziza carpoboloides* Crn. uit het herbarium van Boudier.

1. **Belonium hystrix** (De Not.) Höhn. Ann. Myc. **15**: 343. 1917.

Apotheciën zeer klein, blauwgrijs met donkere haren, gesloten als wit gepoederd. Haren donkerbruin, in bundels, met afgeronde apex, duidelijk gesepteerd. Asci 72.2–83.6 × 11 μ. Ascosporen 15.2–16.0–17.1 × 4 μ, 1-cellig, kleurloos, met ronde einden, recht of zwak gebogen met 2 grote guttulae. Paraphysen beneden kleurloos, boven voorzien van lichtbruine granulaties, dikte ongeveer 4 μ.

Het geslacht *Belonium* Sacc. behoort tot de *Mollisioideae*. Nannfeldt (1932) geeft een gedetailleerde beschrijving van de bouw van *B. hystrix*, naast een uitvoerige uiteenzetting over de geschiedenis van de nomenclatuur. *Belonium hystrix* is een zeer karakteristieke soort, die grote verwantschap vertoont met soorten van het genus *Pirottaea*, die eveneens donkerbruine haren bezitten. Bij Rehm (1896) vinden we de soort aangeduid met de naam *Beloniella graminis* (Desm.) Rehm.

Gelderland: Ede, langs de spoorbaan, 1 VIII 1954, *Gremmen 762*, op afgestorven halmen van *Molinia coerulea*.

2. **Cenangiopsis quercicola** (Romell) Rehm, Ber. Bayr. Bot. Ges. **13**: 189. 1912.

Apotheciën in groepjes van 3 tot 6, zich in het substraat ontwikkelend, 2–4 mm groot, zittend, bruin, uitwendig als wit gepoederd. Excipulum 40–80 μ dik, zeer karakteristiek wegens ongelijk oppervlak van de cortex, veroorzaakt door wratachtige of pyramide-achtige verhevenheden en bestaande uit donkerbruine celgroepen. Excipulaire cellen 7–11 μ in diameter, donkerbruin, polyedrisch. Margo met haarachtige cellen, waarvan de naar binnen gerichte kleurloos zijn en de naar buiten gerichte bruin. Hypothecium kleurloos, ongedifferentieerd. Hymenium wit of crême. Asci 77–96 × 6–7 μ. Ascosporen 8.6 × 3.8 μ, kleurloos, 1-cellig, eivormig. Paraphysen lancetvormig, kleurloos, gesepteerd, 77–105 μ lang, grootste breedte ongeveer 6 μ, 20–25 μ boven de asci uitstekend.

De lancetvormige paraphysen vertonen grote overeenkomst met die in de soorten van het genus *Lachnum* (Retz.) Karst. De structuur echter van de apotheciën is geheel anders.

Gelderland: Achterberg, „Dikkenberg", 24 VII 1955, *Gremmen 1151*, op afgestorven, niet afgevallen takjes van *Quercus* sp.

3. **Gorgoniceps aridula** Karst. Myc. Fenn. 1: 185. 1871.

Apotheciën zeer klein, 300 μ wanneer hymenium geheel is uitgespreid, bruin tot roodbruin, ongesteeld of met uiterst geringe aanduiding van steeltje. Asci (96.4) 102.6–114.0 (133.0) × 11.4–12.3 μ, porus J + blauw. Ascosporen (53.2) 64.6–68.4 (87.4) × 1.9–2.9 (3.5) μ, veelcellig, (meestal 14–16-cellig), kleurloos, gebogen, parallel liggend in de ascus, ene einde spits, andere einde afgeknot, gevuld met kleine oliedruppeltjes. Paraphysen aan de apex iets verdikt tot 4 μ.

Het genus *Gorgoniceps* werd door Karsten (Myc. Fenn 1: 15. 1871) opgesteld en aldus beschreven: „Apothecia sessilia vel substipitata, aperta, subnuda, glabra, convexa, caesio-hyalina, deorsum fuscescentia excipulo e filamentis fuscescentibus composito. Asci clavati. Sporae conglobatae, bacillares s. filiformes, spurie pluriseptatae vel guttulatae, hyalinae, longae, Paraphyses filiformes, superne attenuatae". Hij noemt alleen de soort *G. aridula*.

Rehm noemt vier soorten, te weten: *G. aridula* Karst., *G. taveliana* Rehm, *G. pumilionis* Rehm en *G. fiscella* (Karst.) Sacc.

De apotheciën van *Gremmen 811* zijn rose tot bruinrood. Het excipulum is prosenchymatisch van bouw. De asci en ascosporen meten: 114–121.6 × 13.3–15.2 μ en (57.0) 64.6–68.4 (87.4) × 3.5 μ. Deze afmetingen nu zijn zowel van toepassing op *G. aridula* als op *G. taveliana*, maar volgens Rehm zouden de typische bruinrode apotheciën speciaal behoren bij de soort *G. taveliana*. Bij de soort *G. aridula* laat Rehm zich niet duidelijk uit over de kleur van de apotheciën.

De door Maas Geesteranus te Dwingelo verzamelde apotheciën op afgevallen dennenkegels (no. 10086) waren voor een deel witachtig grijs. Deze fructificaties bleken alle onrijp, maar de bouw van de excipula was geheel dezelfde als die van de bruinrode, rijpe apotheciën. Soms kwamen zelfs olijfkleurige vormen voor en ook die waren onrijp, maar bezaten overigens een identieke excipulumbouw. Steeds werden rijpe ascosporen gevonden bij de bruingekleurde apotheciën, nooit bij de andere. Daar deze vormen vaak bijeen voorkwamen op één kegel, krijgt men sterk de indruk, dat de witte en olijfkleurige apotheciën onontwikkelde stadia zijn van de roodbruine fungus, hetgeen nog versterkt wordt door dezelfde anatomische structuur.

Op grond van de positieve jodiumreactie zou men nu komen tot de soort *G. aridula* (Rehm, 1896). Het aanwezig zijn of het ontbreken van een positieve joodreactie is echter niet doorslaggevend, daar deze zeer verschillend kan uitvallen al naar de ouderdom van het te onderzoeken materiaal. Ook de maten van asci en ascosporen geven geen duidelijk verschil ten opzichte van *G. taveliana*. Rehm zegt nog van *G. taveliana* „... die Art unterscheidet sich schon durch winzige, dunklere Apothecien vollständig von *G. aridula*..." Uit zijn beschrijvingen echter valt te concluderen, dat beide fungi *G. aridula* en *G. taveliana* in wezen niet verschillen. Op grond van prioriteit van de soort van Karsten en omdat de soort *G. taveliana* waarschijnlijk identiek is, prefereer ik voor de Nederlandse vondsten de naam *G. aridula* Karst. De soort *G. pumilionis* Rehm is geheel verschillend van de vorige door de afwijkende maten van asci en sporen en hetzelfde geldt voor *G. fiscella* (Karst.) Sacc. met ascosporen van 120–180 × 1 μ. Volgens Karsten (cit. Rehm, 1896. 1233) zou deze laatste niets anders zijn dan *Apostemidium guernisaci* (Crouan) Boud. (Gremmen, 1954).

Drente: Dwingelo Lheederzand 15 VIII 1954, *Maas Geesteranus, 10086, 10087, 10088*, op

afgevallen, overjarige kegels van *Pinus sylvestris*, in Herb. Lugd. Bat.; Idem *Maas G. 10085*, met *Pezicula livida* (B. & Br.) Rehm.

Gelderland: Wageningen, „Oostereng", 17 IX 1954, *Gremmen 811*, op dode, afgevallen stukjes schors van *Pinus sylvestris*.

4. **Habrostictis carpoboloides** (Crouan) Boud. Hist. et Classif. Discom. Eur. 102. 1907 – *Peziza carpoboloides* Crouan, Fl. Finist. 50. 1867 – *Habrostictis rubra* Fuck. Symb. Myc. 249. 1869 – *Peziza lasia* B. et Br. Ann. Mag. Nat. Hist. **11**: 347. 1873 – *Calloria lasia* (B. et Br.) Phill. Man. Brit. Discom. 327. 1887 – *Orbilia lasia* (B. et Br.) Rehm, Krypt. Fl. **3**: 456. 1896.

Afb.: Boudier, Icon. Myc. **3**: pl. 459. 1905–1910.

Apotheciën zich in groepjes in het substraat ontwikkelend, ongeveer 1 mm in diam., gedurende het rijpingsproces de belemmerende weefsels opzij dringend, strokleurig tot lichtbruin, bij volkomen rijpheid met ronde opening of lengtespleet openscheurend, 800–900 μ in diam., met rafelige, getande of gekartelde randen. Hymenium roodbruin tot rose. Excipulum uit 3 min of meer duidelijke lagen bestaand, 1: een buitenste, zeer smalle, kleurloze laag van 7–10 μ dikte, 2: een middelste, roserode textura globulosa van 40–55 μ dikte, met min of meer hoekige cellen van 8–10 μ in diam., 3: een binnenste, lichter roserode laag van zeer dicht ineengevlochten weefsel van ongeveer 60 μ dikte. Hymenium eveneens roserood, ongeveer 80 μ dik. Asci (61.6) 69.3–77.0 (80.8) × 4–5.7 μ, J—. Ascosporen (11.5) 12.5–13.4 (15.4) × 2.8–3 μ, kleurloos, 1-cellig, recht of iets gebogen, het ene einde dikker dan het andere, vaak met een kleine centrale oliedruppel. Paraphysen draadvormig, met spiesvormige apex tot 4 μ dik.

Het genus *Habrostictis* Fuck. heeft als type soort *Habrostictis rubra* Fuck., welke op iepenbast gevonden werd en identiek is met *Peziza lasia* B. et Br. De resultaten van Von Höhnel (1917. 331), die een slecht ontwikkeld exemplaar van *Orbilia lasia* (B. et Br.) Sacc. (Mycotheca germanica 613) onderzocht had, werden naderhand door Nannfeldt (1932), die hetzelfde exsiccaat bestudeerde, aangevuld. Uit de beschrijving van Von Höhnel en door mij vervaardigde praeparaten van het Nederlandse materiaal heb ik kunnen vaststellen, dat de Nederlandse vondsten identiek zijn met het hierboven geciteerde exsiccaat.

Door beide broeders Crouan is een beschrijving gegeven van een fungus, welke zij *Peziza carpoboloides* Crouan nov. sp. noemden. Deze schimmel werd gevonden op „... les fibres d'une corde pourrie, dans une verger sur la terre, le 20 Mars 1866". Boudier (1905–1910. 265, pl. 459) beschreef deze soort opnieuw onder de naam van *Habrostictis carpoboloides* (Crn.) Boud. naar exemplaren, die te Vincennes door Patouillard gevonden werden.

Met welwillende medewerking van Prof. Dr R. Heim te Parijs was het mij mogelijk materiaal van deze schimmel uit het herbarium van Boudier te bestuderen. De apotheciën komen geheel overeen met het Nederlandse materiaal, zowel wat de anatomie betreft als de maten van asci en ascosporen. Groot verschil is er wel in het substraat. De Nederlandse exemplaren werden verzameld op *Ulmus* bast, evenals het door Von Höhnel beschreven materiaal, het Franse daarentegen op „corde pourrie".

Naar aanleiding van mijn onderzoek kan ik nog het volgende mededelen. Allereerst blijkt, dat Boudier de ascosporen in zijn afbeelding te groot weer-

geeft, welk feit ook door Mme Le Gal (1953) bij haar revisie van het Herbier Crouan te Concarneau geconstateerd werd. Verder moet ik naar aanleiding van Von Höhnel's mening „dasz der Pilz keineswegs einen zerrissen-zähnigen Apothecienrand besitzt, wie dies Berkeley, Broome und Saccardo angeben und zeichnen" opmerken, dat hij het toch niet bij het rechte einde heeft gehad, misschien omdat hij minder goed materiaal bestudeerde. Bij het Nederlandse materiaal is dit kenmerk zeer evident wel aanwezig. Ook door Boudier is het kartelen van de rand duidelijk in zijn afbeelding weergegeven.

De identiteit met *H. carpoboloides* moet dus wel als vaststaand worden aangenomen. Von Höhnel heeft hiervan misschien wel een vermoeden gehad, gezien zijn opmerking, dat *H. carpoboloides* zeer dicht bij *H. rubra* staat. Op grond van prioriteit moet de soortnaam *carpoboloides* als de juiste worden beschouwd.

Volgens recente onderzoekingen van Svrček (1954) is *Orbilia vacini* Vel. eveneens identiek met *Habrostictis rubra* en dus met *H. carpoboloides*. Als substraat vermeldt hij eveneens *Ulmus*.

Als imperfecte vormen van deze zwam noemt Von Höhnel (1917. 332) *Tuberculariella sanguinea* (Fuck.) Höhn., welke volgens hem identiek is met *Myxosporium sanguineum* (Fuck.) Symb. Myc. 230. 1869 (= *Cryptosporiopsis sanguinea* (Fuck.) Petrak, in Ann. Myc. **21**: 188. 1923). De samenhang tussen *Habrostictis rubra* en deze imperfecte vormen neemt Von Höhnel op grond van het gelijktijdig voorkomen op hetzelfde substraat aan. Zolang echter het verband van beide stadia niet door middel van proeven in reincultures is aangetoond, moet de grootste voorzichtigheid met dergelijke uitspraken in acht worden genomen.

Utrecht: Baarn, „Groeneveld", II 1954, *Heybroek*, op verwonde bast van *Ulmus* spec., *Gremmen 1127, 1131, 1132*.

5. **Ombrophila bäumleri** Rehm, Hedwigia 228. 1885.

Apotheciën kaneelbruin, ongeveer 1–1.5 mm groot, gesteeld, van een taaie consistentie. Asci 64.6–68.4–79.8 × 5.7–7.6 μ. Ascosporen 7.6–9.5 × 3.5–3.8 μ, 1-cellig, kleurloos, eivormig of ellipsoidisch, soms met een kleine oliedruppel in de uiteinden. Paraphysen draadvormig, kleurloos, 2.5–3 μ dik.

Er is geen donkerbruine textura globulosa, zoals bij *Mollisia amenticola*, daarentegen zijn de cellen min of meer hoekig en kleurloos.

Gelderland: Renkum, Renkumse Beek, 17 X 1954, *Gremmen 814*, op afgevallen en zeer nat liggende elzenproppen.

6. **Patellaria macrospora** (Fuck.) Phill. Man. Brit. Discom. 367. 1887.

Apotheciën zich subepidermaal ontwikkelend, geleidelijk door een lengtescheur in het substraat zich verder ontplooiend, ongesteeld, in groepjes bijeen, zwart. Asci 81.0–96.2 × 11.5 μ, opvallend dikwandig, J—. Ascosporen 17.3–24.0 μ lang en kleurloos, 4-, 5- of 6-cellig. Paraphysen zeer dun en groenachtig gekleurd, een epithecium vormend.

Gelderland: Wageningen, „De Dorschkamp", 22 X 1954, *Gremmen 825*, op dode loofhouttakken (*Quercus?*).

7. **Tympanis hypopodia** Nyl. Obs. Pez. Fenn. 72. 1868.

Apotheciën 0.5–0.8 mm groot, zittend, jujube-achtig, glimmend zwart. Asci

62.5–77.0–80.6 × 9.6–11.5 μ, gevuld met kleurloze, spermatoide sporen (secundaire sporen), welke 2 × 1 μ groot zijn. Primaire ascosporen vaak afwezig of moeilijk waarneembaar, 7.6–7.7 × 3.5–4 μ groot, 1-cellig, kleurloos. Paraphysen 1.9–2 μ dik, draadvormig, kleurloos, apex iets verdikt tot 3.5–4 μ bruin, een donkerbruin epithecium vormend.

Op hetzelfde substraat waren ook pycniden van een *Pleurophomella* sp. te vinden, welke in de levenscyclus van deze Discomyceet behoren.

Bovengenoemde soort is een vertegenwoordiger uit de zgn. *hypopodia* groep, zoals opgevat en beschreven door Groves (1952. 599). Deze auteur zegt: ,,A group of species morphologically similar to *T. hypopodia* occurs on various conifers. Some might prefer to regard all these varieties of one species and, in that case *T. hypopodia* is the oldest name. However they seem to be culturally distinct and I prefer to regard them as species at present''. Daar Groves geen voldoende beschrijving van deze cultuurverschillen geeft, is het mij niet mogelijk mijn vondst nauwkeuriger te identificeren. Het is daarom niet onmogelijk, dat deze identiek is met de door hem beschreven soort *T. hansbroughiana* Groves.

T. pseudotsugae Groves, die op hetzelfde substraat voorkomt is een geheel andere schimmel zowel wat betreft de maten van asci en ascosporen als in de groei van het mycelium in reincultuur. Volgens Groves is de soort *T. pithya* (Karst.) Karst., beschreven in Fungus **24**: 11. 1954 op *Pinus sylvestris*, waarschijnlijk eveneens *T. hypopodia*, daar de asci bij *T. pithya* volgens hem gewoonlijk 16 μ in diameter zijn.

Gelderland, Wageningen, ,,De Dorschkamp'', 22 X 1954, *Gremmen 823*, op dode stammen van *Pseudotsuga taxifolia*.

Summary

In this paper 7 species of Discomycetes new to the mycoflora of the Netherlands are reported. Special attention is given to *Gorgoniceps aridula* Karst. and *G. taveliana* Rehm, since going by Rehm's descriptions they do not seem to differ in any way. It is concluded that in all probability both species are identical. For the Dutch specimens the former epithet is adopted, since it is the earlier name.

Very fine collections of the rare fungus *Habrostictis carpoboloides* were received, which were sampled on bark of *Ulmus* sp. The material was compared with *H. carpoboloides* (Crouan) Boud. from Herb. Boudier at Paris and proved to be identical. *H. carpoboloides* also appeared to be the same as *Habrostictis rubra* Fuck. Since the former epithet has priority over the latter, *Habrostictis carpoboloides* is the correct name.

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OBSERVATIONS ON AGARICS

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In this paper a number of critical, little-known or new Agarics are dealt with, most of which have been collected in the Netherlands. Special attention has been given to the genus *Inocybe*, represented by a crowd of species on the poor soils of our country.

I have to express my sincere thanks to Mme M. Le Gal, Mr J. Favre, Mr H. Romagnesi, Mr M. Locquin, Mr R. W. G. Dennis, and Mr M. Herregods for giving information and sending me notes and dried specimens. I should like to take this opportunity of thanking Mr M. Van Vuure, who accompanied me on so many excursions during the latter years of my life in Doetinchem, and who was always willing to leave me his best collections. I am much indebted to Mr E. J. H. Corner for his revision of the manuscript, his valuable criticism and linguistic advice. To Miss J. Th. Koster I owe many thanks for revision of the Latin diagnoses.

One of the basic works of modern Agaricology, the "Flore Analytique des Champignons Supérieurs" of Kühner and Romagnesi, will be cited more than once. For the sake of brevity I shall speak in future of the "Fl. An.".

To avoid misunderstanding I will give a short explanation of the measurements and some of the terms used.

Measurements. The macroscopical measurements are always given in mm. When for length, breadth or diameter only a single measurement is given, this is the maximum for normal specimens. As the diameter of the pileus, the diameter at its base is taken.

The spores are invariably measured in the same way; the method applied has been explained in a former paper (1943). For the species described here it was not judged necessary to discriminate between *breadth* and *thickness* of the spores, so that *breadth* means: the measurement taken perpendicular to the "axis" of the spores. Other microscopic measurements are approximations. Extremes are neglected or added in brackets.

Pileus. Josserand (1952) is followed in discarding the vague term "campanulate". Thus the shape of a pileus is not said to be "campanulato-convex", but "convex, umbonate" or "convex with a little individualised umbo", etc.

Lamellae. *Adnate* = inserted to the stipe with the whole breadth. *Adnexed* = inserted to the stipe with about half the breadth. *Attached* = inserted to the stipe with about one fourth of the breadth. *Rotundato-adnate* = not actually adnate, because the edge is convexly rotundate just before reaching the stem. Evidently this is a concession to logic to save a generally adopted term. *Equal* = free edge parallel to insertion with pileus.

Stipe. *Equal* refers to the whole length of the stipe, except when there is a more or less marginate, i.e. individualised, bulb. In the latter case *equal* refers to the part of the stem situated above the bulb. *Pruinate* = subpulverulent; in particular *pruinate* does not mean here: with a bloom.

Colour. Brown = a brown with a minimum of red. For an example the reader may be referred to Lange's plate 17 D (pileus of specimen on the right) or plate 100 E (gills of specimen on the left).

Cystidia. Sterile and little differentiated cells on the edges of the lamellae, intermediate in shape between genuine cystidia and basidia, are called here *paracystidia*, when they are intermixed with cheilocystidia. The same elements on the surface of the stipe, there intermixed with caulocystidia, are called *paracystidia* also.

The stipe of an *Inocybe* is said to be cystidiate when it is pruinate with cystidia, whether or not intermingled with paracystidia.

Utriform is taken in the sense Romagnesi uses it. The term is used for a relatively short cystidium with an obtuse neck broader than half the width of the ventricose part of this cystidium. If a cystidium is more elongated, as in many *Inocybe*, it is said to be *sublageniform*. *Sublageniform* is somewhat intermediate between lageniform and fusiform.

Coprinus giganteoporus spec. nov. – *Pl. 1, fig. 1.*

Type in Rijksherbarium, Leiden.

Pileus up to 20 mm high and (unexpanded) 18 mm wide, glandiform, fissoplicate, covered with dispersed, subvisible, white, evanescent flocci, circumference pale ashy, passing upward to greyish ochre brown, ochre brown at the top, darkening when expanding, margin becoming revolute and splitting, deliquescent; flesh thin, fragile, yellowish, odour indistinct. *Lamellae* crowded, free, subventricose, 3–4 mm broad, soon black, edge pallid. *Stipe* ad maximum 70 × 3.5 mm, equal or slightly thicker below, subflexuose, tubulose, fragile, floccose-subsquamulose above, inconspicuously floccose below, glabrescent, peronato-fibrillose over a distance of about 5 mm, white.

Spores opaque under the microscope, black in the mass, 8.6–10.2 × 5.8–6.8 μ, submitriform, coarsely verrucose, pore apical, 2.5–3.5 μ in diameter, collar surrounding the poral tractus about 1 μ high; basidia tetrasporous; pleurocystidia rare, cheilocystidia 25–40 × 20 μ, hyaline, vesiculose; superficial hyphae of pileus radially arranged, 10–20 μ wide, with a brownish membranal pigment; flocci of the pileus consisting or ramified hyphae, in general 4–6 μ broad. Clamp-connections present.

Pileo 20 mm alto, statu inexplanato 18 mm lato, glandiformi, fisso-plicato, subtiliter albo-flocculoso vel glabro, margine pallide cinereo, parte intermedia cinereo-ochraceo vel cinereo-brunneo, centro ochraceo-brunneo, aetate obscuriore, explanato, deliquescenti, margine revoluto-lacerato; carne tenui, fragili, inodora. Lamellis confertissimis, liberis, subventricosis, 3–4 mm latis, atris, acie pallidioribus. Stipite maxime 70 mm longo, 3.5 mm crasso, subaequali, tubuloso, fragili, leviter flocculoso dein glabro, peronato-fibrilloso, albo. Sporis in cumulo atris, 8.6–10.2 × 5.8–6.8 μ, submitriformibus, conspecte verrucosis, poro apicali permagno, 2.5–3.5 μ lato; basidiis tetrasterigmatibus; cheilocystidiis 25–40 × 20 μ, vesiculosis, pleurocystidiis sparsis; hyphis superficialibus pilei radialiter dispositis; hyphis flocculorum pilei ramificatis, 4–6 μ latis; hyphis fibuligeris.

Observations. The *lagopus*-like *Coprinus giganteoporus* differs from the *atramentarius*-like *Coprinus insignis* Peck, well known to the author, by the general appearance, the rudimentary veil and the characters of the spores (*Pl. 1, fig. I, II*). These are smaller than in *C. insignis*, the pore is much more individualised and the ornamentation is different. The apical collar, forming

the wall of the pore, attains a diameter of 2.5–3.5 μ and approaches half the breadth of the spore; the papilla-like protrusion, adorning the top of the spore of *C. insignis*, on the other hand, attains scarcely a diameter of 2 μ. Moreover, the difference in ornamentation is obvious, being most striking in optical section, when the spores are seen from above. Whereas we observe then in *C. giganteoporus* a system of crowded semiglobular warts, we see in *C. insignis* only a faint undulation.

Yet another species, very rarely collected, belongs to the domain of *C. insignis*, i.e. *Coprinus echinosporus* Buller. According to the spore-pictures of Buller in "Researches of Fungi" (1922) and of those of Romagnesi (1941), the shape of the spores of the latter, including the region of the apex, is not different from that of the former. The spore-ornamentation of *C. echinosporus* seems to be more intermediate between that of *C. insignis* and of *C. giganteoporus*. As has already been suggested by Romagnesi, it is not impossible that *C. echinosporus* represents only a poor and slender form of *C. insignis*.

Gelderland: Doetinchem, "Slangenburg", 27 VI 1954, Mrs. *Van Vuure*, a group of about 6 specimens in dry deciduous wood, on old leaves of beech (type, L).

Cortinarius casimiri (Vel.) **comb. nov.** – *Telamonia Casimiri* Vel. České Houby 464. 1921 – *Pl. 1, fig. III.*

Pileus 20–35 mm broad, convex, with a rather broad, obtuse, but well individualised umbo, expanding or becoming repand with elevated margin, hygrophanous, dull, radiato-rugose, especially toward the edge, bay to umber brown, darkest in the centre, expallent, covered with a closely appressed reticulum of whitish arachnoid fibrils, mostly condensed at the circumference; flesh thin, dingy brown, sometimes with a flush of lilac, odour very faint of leaves of *Pelargonium* (?), taste absent. *Lamellae* subdistant, about 35, lamellulae of 2 (3) ranks, up to 6 mm broad, subequal to ventricose, rotundato-adnate to free, sometimes with a decurrent tooth, in adult specimens mostly transversely to reticulato-venose, cinnamon to ferruginous without violet or lilac tones, edge somewhat eroded. *Stipe* 50 × 4 mm, subflexuose, equal, slightly thickened at the base, tubulose, sheathed with a tense and silky-white cortina with denser belt-like zones and with a lilac lustre from the transparance of the lilac-brown cortex; flesh dingy brown with a lilac tint.

Spores 10.2–13.2 ... (15) × 6.2–7.0 μ, narrowly amygdaliform, verruculose, ochre-brown under the microscope; basidia tetrasporous.

Observations. Velenovsky's diagnosis of *Telamonia casimiri*, as translated by Pilát (1948), covers the Dutch plant very well; the only thing I did not observe was the white edge of the lamellae. *Cort. casimiri* is a close relative of *Cort. flexipes* Fr. sensu Ricken, Lange. Favre, etc. (= *Cort. paleaceus* Fr. sensu Konrad & Maublanc et auct. gall. plur.), but is distinguished by the coherent, tightly appressed and persistent veil of the cap, even resistant to heavy rainfall, the obtuse umbo, the uninterrupted veil of the stipe, the lack of lilac or violaceous tints of the young gills, the absence of a pronounced smell and especially by the large spores. Another species closely related to *Cort. casimiri* is *Cort. periscelis* Fr. sensu Cooke, rediscovered in the high moors of the Jurassic mountains by J. Favre, who kindly sent me his data for comparison. The latter species, however, is larger, has smaller spores than the species of Velenovsky,

etc. Other species allied to *Cort. flexipes* can also be excluded since all of them have a quite different colour-scheme or (and) much smaller spores.

Gelderland: Doetinchem, "Groot Hagen", 21 VIII 1952, *Huijsman*, gregarious in mixed wood on poor silicious soil (L); near Varsseveld, X 1952, *Van Vuure*, same kind of wood (L).

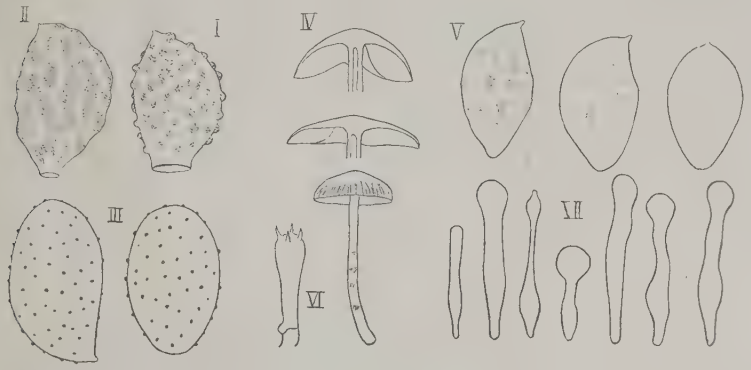


Plate 1 – Fig. I, *Coprinus giganteoporus* Huijsm.: spore 2000x. Fig. II, *Coprinus insignis* Peck (Walcheren, Oostkapelle, "Berkenbosch", IX 1938, under oaks, *Huijsman*): spore 2000x. Fig. III, *Cortinarius casimiri* (Vel.) Huijsm.: spores 2000x. Fig. IV-VII, *Galerina subbadipes* Huijsm.; IV: habitus 1x; V: spores 2000x; VI: basidium 500x; VII: cheilocystidia 500x, of the cystidia pictured those on the left are less typical.

Galerina subbadipes spec. nov. – *Pl. 1 fig. IV–VII.*
Type in Rijksherbarium, Leiden.

Pileus 7–20 mm broad, semiglobate to convex when young, expanding, umbo little individualised, hygrophanous, glabrous, translucently striate up to the disc, rather dark rusty cinnamon, when dry dingy ochraceous-fulvous to alutaceous with a tinge of orange in the centre, edge somewhat crenulate; flesh concolorous or somewhat paler than the surface, rather thin, odour slightly mealy when cut, taste none. *Lamellae* not crowded, about 15, adnate to emarginato-adnate, lamellulae of 2 (3) ranks, regularly alternating with the lamellae reaching the stipe, golden-fulvous to fulvous-cinnamon with fimbriate edges. *Stipe* 18–30 mm long, 1–2.5 mm thick, equal, stuffed to fistulose, subtenacious, top honey to honey-fulvous, gradually darkening toward the rusty-brown, fuliginous brown or even almost black, obsoletely white-mycelioid base, lower half to two third with some superposed girdles made up of white appressed longitudinal fibrillae, top slightly pruinate.

Spores 9.2–10.9 ... 11.8 × 5.0–5.8 ... (6.8) μ, pale ochraceous brown in KOH under high power, narrowly amygdaliform, inconspicuously roughened to smooth, with a "plage suprahilaire"; basidia 26–30 × 8–9 μ, with a clamp connection at the base, four-spored, subclaviform, sterigmata about 4 μ long; pleurocystidia absent, cheilocystidia abundant, 28–50 μ long, thin-walled, generally ventricoso-capitate, neck broad (2.5–4 μ near the capitellum), up to 16 μ long, but in general much shorter, diameter of capitellum often exceeding the breadth of the ventricose part; trama of the gills composed of 10 20 μ

broad, subparallel and brown-walled hyphae; hyphae of pileus-trama interwoven, with encrusting pigment, superficial hyphae radially arranged, repent, not gelatinised, 3–6 μ broad, provided with clamp-connections and heavily encrusted with a brown pigment. Caulocystidia at the apex of the stem similar to cheilocystidia, but capitellum often less pronounced.

Pileo 7–20 mm lato, primo semiglobato vel convexo, dein explanato, subumbonato, glabro, hygrophano, udo ferrugineo-cinnamomeo, lamellis pellucescentibus, sicco sordide fulvo-ochraceo vel alutaceo, disco subaurantiaco; carne tenui, superficie pallidiore, odore subfarinaceo, sapore nullo. Lamellis subdistantibus, plus minusve 15, adnatis vel emarginato-adnatis, lamellulis 2 ... (3) ordinibus, aureo-fulvis vel fulvo-cinnamomeis, acie fimbriatis. Stipite 18–30 mm longo, 1–2.5 mm crasso, aequali, farcto vel fistuloso, subtenaci, apice melleo vel melleo-fulvo, deorsum obscuriore, ferrugineo, fuligineo, etiam fuligineo-atro, cingulis nonnullis albis fibrillis longitudinalibus appressis compositis, apice leviter pruinata. Sporis 9.2–10.9 ... 11.8 × 5.0–5.8 ... (6.8) μ, sub microscopico in KOH pallide ochraceo-brunneis, anguste amygdaliformibus, subrugosis vel levibus, supra hilum plano circumscripto praeditis; basidiis 26–30 × 8–9 μ, tetrasterigmatibus, fibuligeris; pleurocystidiis nullis, cheilocystidiis numerosis, 28–50 μ longis, ventricosis, capitatis, capitello maxime 10 μ lato, ventri vulgo latiore, colle 3–6 μ lato; trama lamellarum subregulari; hyphis superficialibus pilei radialiter dispositis, fibuligeris, pigmento brunneo incrustatis.

Observations. *Galerina subbadipes* apparently growing on debris of various plants, is closely related to *Galerina sideroides* (Fr.) Kühner sensu Kühner and to *Galerina badipes* (Fr.) Kühner sensu Kühner, both of which prefer, however, debris of conifers. *Gal. sideroides* is ordinarily larger and has a more tenacious stem, still more conspicuously adorned with belts and patches of the white veil. Microscopically *Gal. sideroides* has much smaller and more subcylindric spores and more slender- and thin-necked cheilocystidia, bearing a capitellum which does not reach in diameter the breadth of the ventricose part. *Gal. badipes* differs under the microscope in the two-spored basidia, the presence of pleurocystidia and the shape and size of the cheilocystidia. I owe many thanks to Mr. Herregods, who sent me, for comparison, his dried specimens of *Gal. badipes*, corresponding in all points with Kühner's description (1935 (1)). The large (up to 80 μ long) cheilocystidia of the latter species, attenuating gradually toward the apex, do not resemble at all the capitulate marginal cystidia of *Gal. subbadipes*, scarcely surpassing 50 μ in length.

Galerina camerina sensu Kühner is distinguished from *Gal. subbadipes* by many characters. The former is smaller and does not show the naucorioid appearance of the latter, the colour of the pileus is less rusty, the stipe is less conspicuously girdled, the cystidia are different and the basidia bear two spores instead of four.

None of the many species of *Galerina* given by A. H. Smith or of those described by Velenovsky can be said to be in full accordance with the Dutch species.

Gelderland: Doetinchem, "Groot-Hagen", 27 X 1953, *Huijsman*, on a heap of decaying *Carex* and *Typha* in a little marsh (type, L); Vorden, "Kiefskamp", 24 X 1953, *Huijsman*, a few specimens on a wet heath among moss (L).

Inocybe aurea spec. nov. – *Pl. 2, fig. IX–X.*

Type in Rijksherbarium, Leiden.

Pileus 35 mm broad, conical, expanding, in general prominently umbonate, margin becoming reflexo-lacerate, dry, smooth, radiato-fibrillose, often serice-

ous when young, becoming rimose, exceptionally disrupted into recurved squamules, straw colour, then golden yellow, even orange-yellow at the disc, umbo often brownish with a trace of violet, margin sometimes with remnants of the white veil; flesh white, smell faint, spermatic. *Lamellae* moderately crowded, about 45, lamellulae of two ranks, subventricose to ventricose, adnexed, white, pale argillaceous to cinnamon, edge pale, delicately fimbriate. *Stipe* 30–50 × 3–5 ... (7) mm, cylindric, equal or slightly thickened toward the base, solid, araneo-fibrillose to glabrous, white to cream, dingy yellowish cream below.

Spores olivaceous-ochre under the microscope, 8.8–9.9 × 5.3–6.4 μ, quadrangular-gibbose with 7–13 projections, often difficult to count; basidia tetrasporous, about 24 × 8 μ; pleuro- and cheilocystidia rather abundant, 50–80 × 15–23 μ, hyaline, thin-walled, poorly crested, cheilocystidia lageniform, pleurocystidia more ventricose with less pronounced neck, paracystidia present; stipe cystidiate at the top, a little below with arachnoid fibrillae; clamp-connections present.

Pileo 25–35 mm lato, conico dein explanato, vulgo prominenter umbonato, senectute margine reflexo-lacerato, sicco, radiato-fibrilloso, primo sericeo, stramineo, mox aureo, circa discum interdum subaurantiaco, umbone interdum brunneo-violaceo, aetate rimoso, rare squamulis recurvatis disruptis, margine interdum reliquis veli albi cincto, carne alba. Lamellis subconfertis, plus minusve 45, lamellulis 2 ordinibus, adnexis, subventricosis, albis, argillaceis, dein subcinnamomeis, acie albidis, fimbriatis. Stipite 30–50 mm longo, 3–5 ... (7) mm lato, subcylindrico, ebulboso, sclido, araneo-fibrilloso, glabrescente, apice subglabro, albo vel cremeo, deorsum sordide cremeo. Sporis sub microscopico olivaceo-ochraceis, 8.8–9.9 × 5.3–6.4 μ, angulato-gibbosis, 7–13 tuberculis obtusis praeditis; basidiis tetrasterigmatibus; cystidiis lamellarum numerosis, 50–80 × 15–23 μ, lageniformibus, tenuiter muricatis, solum apice extremo stipitis cystidiis sparsis praeditis; hyphis fibuligeris.

Observations. The shape of the pileus of this *Inocybe*, belonging to the *Cortinatae* Kühner, sometimes resembles *Hygrocybe amoena* (Lasch) Ricken (= *Hygrophorus calyptraeformis* Berk.). Within the group mentioned *Inocybe aurea* is fully characterised by the colour of the pileus and the white stipe.

Gelderland: Doetinchem, "Groot-Hagen", 25 IX 1943, *Huijsman*, dry wood of *Pinus* (L); 28 IX 1943, *Huijsman*, same habitat (type, L); 15 VII 1952, same data (L); Gorssel, 12 X 1940, excursion (L).

Inocybe brevispora spec. nov. – *Pl. 2, fig. III–IV.*

Type in Rijksherbarium, Leiden.

Pileus 20–35 mm broad, plano-convex, distinctly umbonate, margin often elevate in mature specimens, surface often coarsely radiato-fibrillose, dull to subnitid, wood- to bay-brown or fuliginous-brown, darkest in the centre; flesh rather thin, pallid, odour faint, indistinct. *Lamellae* 35–45, moderately crowded, lamellulae of 2 ranks, adnate or emarginato-adnate, often ventricose and up to 5 mm broad, argillaceous-isabelline to cinnamon, sometimes with rusty spots; edge undulate, fimbriate, slightly paler than the faces. *Stipe* 40–60 × 3.5–4.5 mm, slender, subflexuose, equal or slightly incrassated toward the base which is sometimes white-tomentose, longitudinally or twistedly striate, loosely araneo-fibrillose, top practically glabrous, sordid brown, paler than the pileus, becoming darker when bruised; flesh fragile, fissile, pallid to pale sordid brown, especially when bruised.

Spores subolivaceous brown under the microscope, 6.2 ... 6.6–8.1 ... (9.2) × 4.9–6.5 μ, often subquadrangular or subpolygonal with 6–7 ... 8 ... (9) obtuse nodules, often difficult to count, apiculus little differentiated; basidia about 25 × 7 μ, tetrasporous; cheilocystidia not abundant, pleurocystidia still scarcer, 45–72 × 10–16 μ, sublageniform, neck little differentiated, very thin-walled, sometimes membranes of upper part more or less undulate or top inflated, often crested with minute crystals of oxalate of lime, paracystidia rare or basidiform and 7–10 μ broad, cylindric to subclaviform; stipe only at the extreme top with scattered rudimentary cystidia; clamp-connections present.

Pileo 20–35 mm lato, plano-convexo, distincter umbonato, radiato-fibrilloso, castaneo vel fuligineo-brunneo, centro obscuriore; carne modice tenui, pallida, odore subnullo. Lamellis 35–45, subconfertis, lamellulis 2 ordinibus, adnatis vel emarginato-adnatis, saepe ventricosis, argillaceo-isabellinis dein cinnamomeis, acie fimbriatis, pallidioribus. Stipite 40–60 mm longo, 3.5–4.5 mm crasso, gracili, ebulboso, araneo-fibrilloso, apice subglabro, pallide vel sordide brunneo, pressu obscuriore. Sporis sub microscopico subolivaceo-brunneis, 6.2 ... 6.6–8.1 ... (9.2) × 4.9–6.5 μ, saepe subquadrangulis vel subpolygonis, gibbosis, 6–7 ... 8 ... (9) nodulis valde obtusis praeditis, apiculo inconspicuo; basidiis tetrasterigmatibus; cystidiis lamellarum haud numerosis, 45–72 × 10–16 μ, sublageniformibus, tenuissime tunicatis, submuricatis, paracystidiis raris; solum apice extremo stipitis cystidiis sparsis et filiformibus praeditis; hyphis fibuligeris.

Observations. The best distinguishing feature of this species, belonging to the *Cortinatae* Kühner, is afforded by the small and subquadrangulate spores, provided with gibbosities which are difficult to count. The outline of the spores is not unlike that of *Inocybe carpta* sensu Bres., but Q is here = 1.25 (*Pl. 2, fig. III*), whereas for *In. carpta* Q = 1.7, (*Pl. 2, fig. I*). *In. globocystis* is distinct in habit, spores (see under *In. cinerascentipes*) and cystidia. The only species, known to me, with which *In. brevispora* could be confused in the field, is *In. cicatricata* Ell. & Everh., though the former generally grows solitary under conifers and the latter gregariously in copses. Microscopically the distinction does not offer difficulties. The spores of *In. cicatricata* are generally larger and more nodulose and in a small but variable percentage one always encounters in this species spores of a cruciform type, elsewhere rarely seen in the genus *Inocybe*. These "abnormal" spores did not escape the attention of Heim (1931. fig. 202 a: the spore between the second and third horizontal row). I intend to come back on this spore-type in a special paper. Paracystidia, abundant in *In. cicatricata* as in most other cystidiate Inocybes, are practically absent in *In. brevispora*. Finally, the cystidia of *In. cicatricata* are larger, sublageniform and thicker-walled than those of *In. brevispora*; as a consequence, in the former species there are no cystidia with an undulated membrane of the neck or with an inflated apex. *In. rostrata* Vel. seems to have the same spores; the large cystidia, rostrate umbo and strong odour separate this fungus from *In. brevispora*. *In. maritimoides* Peck with similar spores has a pileus-surface with "dense-appressed-fibrillose" scales, which are sometimes erect on the disc, a short stipe, etc.

Gelderland: Doetinchem, "De Slangenburg", 19 IX 1943, *Huijsman*, near pines (L); Vorden, "Kiefskamp", 24 X 1953, *Huijsman*, near pines (type, L).

Inocybe carpta (Scop. ex Fr.) Bres. sensu Bres. (nec Heim) Fungi Trid. **1**[4-5]: 50. 1884 – *Pl. 2, fig. I–II.*

Pileus 30 mm broad, conical to plano-convex, obtusely umbonate, surface at

first woolly fibrillose, in adult specimens smooth and glabrous, (sub)nitid, radiato-fibrillose, bay-brown, often with a shade of violet especially when old or bruised, darkest in the centre, margin incurved, often ragged with fibrils when young and becoming lacerate when old; flesh moderately thick, sordid white, sometimes brownish at the disc, odour faint, spermatic. *Lamellae* moderately crowded, 45–55, lamellulae of 1 or 2 ranks, adnexed, slightly ventricose, remaining whitish for a long time, then argillaceous to argillaceous-isabelline, finally more brown with a shade of violet when bruised, edge pallid, slightly eroded. *Stipe* 25–40 × 3–4.5 mm, cylindric, often curved, equal or incrassate toward the base, solid, fibrillosely streaked, top glabrous or minutely pruinate, sordid white at first, but mostly becoming sordid brown or even fuliginous brown with a trace of violet, especially when bruised.

Spores subolivaceous-ochre under the microscope, 9.5–11.8 ... (14.8) × 5.8–6.8 ... (7.8) μ, often rectangular and ± parallel-sided with 6–8 ... 10 obtuse nodules, mostly difficult to count, apiculus little differentiated (*Pl. 2, fig. I*); basidia about 36 × 10 μ, tetrasterigmatic; pleuro- and cheilocystidia not very abundant, 45–70 ... (80) × 12–18 μ, fusiform to sublageniform, thin to moderately thick-walled, hyaline, with sparse crystals of oxalate of lime on the top (*Pl. 2, fig. II*); only extreme apex of the stipe with rudimentary cystidia; clamp-connections present.

Observations. As far as I can trace, Bresadola was the first to outline in a clear way a species considered to be *Inocybe carpta* Fr. The description of the Italian mycologist was accompanied by a good figure and by microscopical details. Whereas, however, *In. carpta* sensu Bresadola evidently belongs to the rough-spored *Cortinatae* Kühner, it is not unlikely that *In. carpta* in Fries's conception makes part of the smooth-spored *Dulcamarae* Heim. So it could happen that a second tradition was born – more closely following Fries – originated by Saccardo (1887), and Quélet (1888) (not Quélet (1886) = *In. carpta* sensu Bres.), continued by Massee, Bataille, Dumée and others, to culminate finally in a clearly circumscribed species by Heim (1931. 169). Unfortunately, we are bound to point out that the small, silvatic species of Fries (1836. 173) can not have been identical with the big, xerophytic species of Heim.

There are at least three species now: 1) the vaguely described *In. carpta* Fr.; 2) *In. carpta* Fr. sensu Bres., not identical with the first; and 3) *In. carpta* Fr. sensu Heim which differs from 1) and 2). Therefore, it will probably be best to look upon *In. carpta* as a nomen confusum to be discarded and to rename the species of Bresadola and of Heim.

Bresadola's species is not much cited in literature. Besides Ricken, only Kühner & Boursier seem to refer to it. The French authors, however, include it wrongly in *In. decipientoides* Peck, which according to them should not be different from *In. globocystis* Vel. I propose to come back on this matter in a future paper.

In. carpta sensu Bres. is one out of a number of species closely allied to, and not always duly separated from, *In. globocystis* Vel. Among these it is recognisable at first sight, owing to a complex of macroscopic characters difficult to be expressed. The particular brown colour of the obtusely umbonate pileus, its margins incurved except in old specimens, the frequent persistence of a few fibrillae of the veil connecting the periphery of the pileus with the surface of the

stipe, the lamellae remaining whitish for a long time, the relatively thick stipe darkened by bruising, all are small characters contributing to give our fungus its particular aspect. Finally, the microscopical characters are most distinctive. The rather large, subparallel-sided and angular spores, in combination with the constantly subcylindric to fusiform cystidia, suffice as such for the identification of *In. carpta* sensu Bres.

Not uncommon in autumn in frondose and mixed woods on silicious soil, often solitary or subsolitary; regularly collected from 1928 in most parts of the Netherlands.

Inocybe cinerascentipes spec. nov.

Type in Rijksherbarium, Leiden.

Pileus 20–35 ... (40) mm broad, conical to convex with a broad and little individualised umbo, margin becoming reflexed, surface minutely radiato-fibrillose to innato-subsquamulose around the disc, sometimes diffracted squamulose, somewhat gold-coloured yellow-ochre to yellow-brown ochre, darkest in the centre; flesh moderately thick, white, odour faint, spermatic. *Lamellae* 30–40, subdistant, lamellulae of 1 or 2 ranks, large, rounded in front, adnate or emarginate, sometimes, subuncinate, argillaceous to subolivaceous-cinnamon, edge paler and delicately fimbriate. *Stipe* 25–40 × 2.5–5 ... (8) mm, equal or slightly incrassate toward the base, not bulbous, subflexuose or curved below, base sometimes slightly mycelioid, solid, longitudinally innato-striate, apex subglabrous, silvery to ashy, when old and especially when bruised much darker, sordid cinereous or sometimes with a shade of violaceous; flesh pallid to sordid grey, darkening when bruised.

Spores subolivaceous ochre under the microscope, 8.0–10.0 ... 12.8 × 5.2–6.2 μ, polygonal-gibbose to nodulose, with 6–11 obtuse noduli, often difficult to count, apiculus very small; basidia tetrasporous; cheilocystidia rather abundant, clustered in flocci, pleurocystidia less abundant, 40–60 × 15–24 μ, in general not exceeding 50 μ, ventricose, pedicellate, often piriform to sublageniform, with or without a slightly differentiated neck, truly thick-walled, often with a little membranal knob on the top, hyaline to pale yellowish, poorly crested, often naked; only extreme top of the stipe with scattered cystidia; clamp-connections present.

Pileo 20–35 ... (40) mm lato, conico vel convexo, subumbonato, aetate margine reflexo subtiliter radiato-fibrilloso vel innato-subsquamulosso, circa verticem interdum diffracto-squamuloso, subaurea, flavo-ochraceo vel flavo-brunneo, centro obscuriore; carne alba, odore debili, modo plurimarum *Inocybarum*. Lamellis subdistantibus, 30–40, lamellulis 1–2 ordinibus, latis, adnatis vel emarginatis, argillaceis dein subolivaceo-cinnamomeis, acie pallidioribus, subtiliter fimbriatis. Stipite 25–40 mm longo, 2.5–5 ... (8) mm crasso, aequali vel deorsum leviter incrassato, ebulboso, apice subglabro, argenteo- vel cinereo-griseo, tactu et senectute notabile obscuriore, sordide cinereo, interdum violaceo-inhalato, carne pallida vel sordide grisea, pressu obscuriore. Sporis sub microscopico subolivaceo-ochraceis, 8.0–10.0 ... 12.8 × 5.2–6.2 μ, gibbosis, 6–11 nodulis obtusis praeditis, apiculo inconspicuo; basidiis tetrasterigmatibus; cystidiis lamellarum 40–50 ... 60 × 15–24 μ, ventricosis, pedicellatis, piriformibus vel sublageniformibus, crasse tunicatis; solum apice extremo stipitis cystidiis sparsis praeditis; hyphis fibuligeris.

Observations. The present species, belonging to the *Cortinatae* Kühner, must often have been mistaken for *Inocybe globocystis* Vel. (= *In. decipientoides* Peck sensu Kühner & Boursier, 1932) because of its similar cystidia and spores in connection with the darkening of its stipe by bruising. Macroscopically it

differs from *In. globocystis* in the unusual contrast between the silvery grey to ashy grey or sordid stipe, exempt of any trace of yellow or brown, and the yellow-ochre to ochre-brown pileus. Also microscopically it is excellently separated from *In. globocystis*. Whereas, in a considerable percentage, the spores of the latter are provided with a strongly developed and square apiculus, this appendage is only slightly pronounced in *In. cinerascentipes*.

It may be remarked here that *In. globocystis* is easily confused with several allied species. Among these, only *In. boltoni* Heim (nec *In. boltoni* sensu Kühner & Rom., 1953!) seems to share the character of the conspicuous and square apiculus of the spores with the species of Velenovsky.

Gelderland: Nijmegen, Hatert, 26 IX 1953, *Huijsman*, on poor, unmanured grassland surrounded by *Betula* and other frondose trees (type, L); Ruurlo, "Onstein", 20 X 1947, *Huijsman*, in steep side of loamy ditch in frondose wood (L).

Inocybe fibrosa (Sow. ex Fr.) Gill. (sensu Bres., Métrod, nec Ricken = *In. sambucina* (Fr.) Fr.) Hymenomyc. 517. 1874 – *Pl. 2, fig. V–VI.*

Pileus up to 80, 100 and more mm broad, convex of plano-convex to applanate, obtusely umbonate, delicately radiato-fibrillose, rather smooth and subnitid, cream to pale alutaceous, yellow-spotted, margin lacerate; flesh moderately thick, white, smell faint, spermatic. *Lamellae* crowded, about 125, lamellulae of two ranks, almost free, not very broad, thick, white, becoming alutaceous-isabelline; edge white, eroded. *Stipe* tall in most specimens, up to 100 × 20 mm, sometimes relatively short and measuring e.g. 50 × 15 mm, equal, straight, solid, firm and hard, indistinctly bulbous, immarginate or more rarely submarginate, cream, sordid yellow below, pruinate only above.

Spores subolivaceous under the microscope, 7.9–10.0 × 5.8–6.9 μ, nodulose, with 8–13 protuberances; basidia tetrasporous; pleuro- and cheilocystidia abundant, 40–60 × 13–25 μ, sybcylindric to lageniform, especially the pleurocystidia often very ventricose, hyaline to pale yellowish, moderately to rather thick-walled, muricate, paracystidia claviform; top of stipe with bundles of cystidia, gradually disappearing 10–20 mm beneath the insertion of the lamellae; clamp-connections present.

Observations. The most remarkable thing to be recorded here is the limitation of the caulocystidia to the apex of the stem. It is, therefore, difficult to place *Inocybe fibrosa* in the *Marginatae* Kühner. Nevertheless, some of the species of this group, e.g. *In. fibrosoides* Kühner (1933. 91), *subfibrosoides* Singer (1953. 234) and *fuscata* Singer (1953, 236) seem to be closely related to our species. The exact position of *In. fibrosa* var. *trivialis* Lange (1938. 86) and var. *nobilis* Heim (1931. 375) in all probability autonomous species has still to be established.

Switzerland: kt. Luzern: Auenwald north of Luzern, 15 IX 1953, excursion, loosely gregarious in frondose wood, mixed with conifers, bordering the Reuss(L).

Inocybe fuligineo-atra spec. nov. – *Pl. 2, fig. XI–XII.*

Type in Rijksherbarium, Leiden.

Pileus 15–25 mm broad, plano-convex to applanate with a broad and elevated umbo, margin becoming reflexed, surface sericeo-fibrillose, fibrillae more or less united in converging bundles at the circumference, sometimes

cracked around the disc, very dark, fuliginous to sepia, often nearly black, palest at the margin, mostly with a contrasting pale grey hoariness covering the umbo; flesh rather thin except in the centre, white, odour very faint, earthy. *Lamellae* about 32, somewhat crowded, lamellulae of 2 to 3 ranks, attached, ventricose, buff to pale cinnamon, edge fimbriate, pallid. *Stipe* 30 × 3 ... (5) mm, equal, with a submarginate, shallow and whitish bulb reaching a diameter of 8 mm, often curved, solid, longitudinally innato-striate, pruinate all over, isabelline suffused with red, palest above, flesh concolorous, white in the bulb.

Spores subolivaceous under the microscope, 8.6–9.4 ... (11.8) × 6.3–7.4 ... (8.2) μ, Q = 1.4, prominently nodulose, noduli easy to count, 8–14; basidia tetrasporous; pleuro- and cheilocystidia abundant, 40–60 × 12–18 μ, fusiform, neck little differentiated, rather thin-walled, hyaline, poorly crested; caulocystidia from the apex down to the margin of the bulb; clamp-connections present.

Pileo 15–25 mm lato, plano-convexo vel applanato, late et prominenter umbonato, aetate margine reflexo, sericeo-fibrilloso, fuligineo vel fuligineo-atro, subsepiaceo, margine leviter pallidiore, saepe umbone tomento albo-griseo tecto; carne tenui, alba, odore debili, terreo. Lamellis subconfertis, plus minusve 32, lamellulis 2–3 ordinibus, affixis, argillaceis dein pallide cinnamomeis, acie fimbriatis, pallidioribus. Stipite maxime 30 mm longo, 3 ... (5) mm crasso, aequali, solido, innato-striato, omnino pruinato, isabellino-rubello, sursum pallidiore, bulbo albido, submarginato, usque ad 8 mm lato. Sporis sub microscopico subolivaceis, 8.6 9.4 ... (11.8) × 6.3–7.4 ... (8.2) μ, 8–14 nodulis vulgo prominentibus praeditis; basidiis tetrasterigmatibus; cystidiis lamellarum 40–60 × 12–18 μ, subfusiformibus, tenuiter tunicatis, leviter muricatis; caulocystidiis ab apice usque ad marginem bulbi numerosis; hyphis fibuligeris.

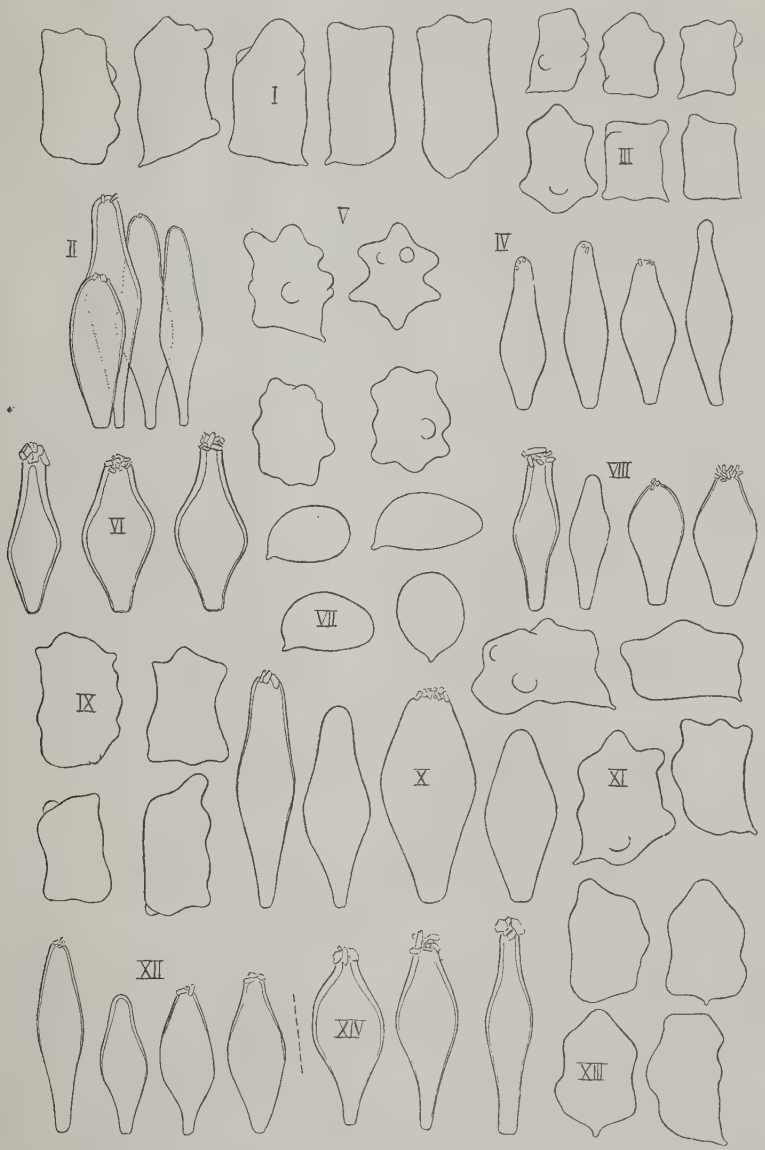
Observations. This small species can be included in the *oblectabilis*-complex. From the other members of this difficult group it is clearly separated by the smallness, the very dark – nearly black – colour of the pileus, the prominent umbo and the remnants of the sordid white veil, generally leaving a persistent cap on the disc. Whereas the mature spores of a single carpophore of *Inocybe oblectabilis* sensu lato often show all transitions between nearly smooth and distinctly nodulose, the outline of these spores is much less variable in *In. fuligineo-atra*.

Gelderland: Beek (gem. Bergh), "De Bijvank", 29 VII 1953, *Huijsman*, gregarious in frondose wood (type, L); regularly found again in same and neighbouring localities.

Inocybe ionipes Boudier, Ic. Myc. 4: 60. 1905–1910 – *Pl. 2, fig. XIII–XIV*.

Pileus 25 mm broad, convex to plano-convex, umbonate, centre smooth and glabrous, innato-squamulose around the disc, radiato-fibrillose and subnitid toward the margin, lacerato-rimose when old, ochre-brownish, darkest at the disc; flesh rather thin, pallid, odour faint, spermatic. *Lamellae* moderately

Plate 2 – Fig. I-II, *Inocybe carpta* (Scop. ex Fr.) Bres. sensu Bres.; I: spores 2000x; II: cheilocystidia 500x. Fig. III–IV, *Inocybe brevispora* Huijsm.; III: spores 2000x; IV: cystidia 500x. Fig. V VI, *Inocybe fibrosa* (Sow. ex Fr.) Gill. sensu Bres., Métrod; V: spores 2000x; VI: cystidia 500x. Fig. VII VIII, *Inocybe reducta* Lange; VII: spores 2000x; VIII: cystidia 500x. Fig. IX X. *Inocybe aurea* Huijsm.; IX: spores 2000x; X: cystidia 500x. Fig. XI-XII, *Inocybe fuligineo-atra* Huijsm.; XI: spores 2000x; XII: cystidia 500x. Fig. XIII–XIV, *Inocybe ionipes* Boudier; XIII: spores 2000x; XIV: cystidia 500x.


I
II
III
IV
V
VI
VII
VIII
IX
X
XI
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XIII
XIV

crowded, about 32, lamellulea of 2 ranks, equal, 4 mm broad, rotundato-adnate, pale lilac-gray, becoming argillaceous-brown; edge pale, denticulate. *Stipe* 25 × 4 mm, slightly curved, equal or slightly incrassate below, solid, coarsely fibrillose, slightly pruinate at the top, lilac to brownish lilac below, paler above; flesh ochry-lilac, especially toward the base, dingy brown when bruised.

Spores subolivaceous ochre under the microscope, 8.3–9.7 × 5.3–6.4 μ, obtusely nodulose to subpolygonal, nodules difficult to count and probably not exceeding 8 in number; basidia tetrasporous; pleuro- and cheilocystidia abundant, 40–65 × 12–22 μ, lageniform, ventricose, neck relatively short, hyaline to pale yellow, thin- to moderately thick-walled, crested, paracystidia and intermediate structures frequent; hyphae of superficial layer of pileus 7–12 μ broad, terminated in the centre by thin-walled but strongly encrusted cystidiform elements which are subcylindric, claviform or even lageniform and occasionally crowned with crystals of oxalate of lime; stipe at the extreme apex with scattered cystidia, soon passing into loose arachnoid fibrillae; clamp-connections present.

Observations. *In. ionipes* has much the appearance of a species belonging to the *In. obscura*-complex, but it is immediately distinguished by its nodulose spores.

Heim looked upon *In. ionipes* as a variety of *In. boltoni* Heim, to which he had at first applied the name of *In. rickeni*. The latter combination had to be abandoned, because it was already occupied for another species by Kallenbach. The trinomial *In. boltoni* var. *ionipes*, however, is to be regarded as a misapplication of the rules of nomenclature, since *In. ionipes* Boudier (1910) is prior to *In. boltoni* (1931). Nomenclaturally it would have been exact to maintain *In. ionipes* and to designate the other as *In. ionipes* var. *rickeni*. Yet, I cannot follow Heim in reducing one of the "entities" to the state of a variety of the other. Though both of them belong to the same subgroup of the *Cortinatae* Kühner, many essential points of difference may be indicated. *In. ionipes* is smaller than *In. boltoni*, the colour of the pileus is much paler, a marked excoriation of the pileus-surface is absent, the shape of the cystidia is quite different, the lilac colour of the stipe and the young gills, so characteristic of *In. ionipes*, is absent in the other, etc.

Gelderland: Beek (gem. Bergh), "De Bijvank", 28 VII 1951, *Huijsman*, 2 fruit-bodies in grassy road-side (L).

Inocybe reducta Lange, Fl. Agaric. Dan. **5**: 101. 1940 – *Pl. 2, fig. VII–VIII.*

Pileus 35 mm broad, conico-convex with a broad and little individualised umbo, margin decurved, becoming lacerate, surface radiato-fibrillose to reticulato-fibrillose toward the margin, havanna-brown (Séguy 131); flesh thick, white or pallid, odour faint, earthy. *Lamellae* about 50, not very crowded, lamellulae of two ranks, ventricose, 4–5 mm broad, attached, argillaceous brown with a trace of olive, edge paler, crenulate, fimbriate. *Stipe* 40 × 6 mm, straight, cylindric, slightly attenuated toward the shallow, submarginate, 10 mm broad bulb, solid, fibrillosely streaked, pruinate above, pallid to dingy buff with a shade of pinkish lilac in the upper and middle parts.

Spores subolivaceous brown under the microscope, smooth 6.1–8.1 × 4.7–5.3 μ, ellipsoid; basidia 21–28 × 6–8 μ, tetrasporous; cystidia 30–60 × 12–16 μ,

rather abundant on edge, less on sides of lamellae, ventricose to subfusiform, thin- to moderately thick-walled, hyaline, crested; apex of stipe with tufts of cystidia, disappearing about halfway; clamp-connections present.

Observations. I think it useful to direct the attention to this fungus, as the original description of J. Lange may easily be overlooked.

The habit of a miniature *Inocybe asterospora*, the bulbed stipe, the colour of the pileus and particularly the very small smooth spores, offer a combination of characteristics that make *In. reducta* an easy species to identify. Since Lange drew his description only from two specimens and as I could not find any other reference in literature, the variability of *In. reducta* has still to be studied.

Gelderland: Doetinchem, "De Slangenburg", 2 X 1952, *Huijsman*, only a single specimen in grassy road-side near *Pinus* (L).

Inocybe squarrosa Rea, Trans. Brit. Myc. Soc. **5**: 250. 1916 – *Pl. 3.*

Pileus 8–20 mm broad, hemispheric, convex, finally applanate or even concave, squarroso-squamose, squamulae hoary or grey-canescent at the tips, erect and subpyramidal in the centre, recurved to appressed further outwards and united at the margin with the greyish white appendiculate veil, sometimes coarsely fibrillose and indistinctly squamulose in old specimens, greyish brown to brown but not very dark; flesh thin, sordid white or brownish, odour indistinct, slightly earthy. *Lamellae* moderately crowded, about 25, lamellulae of 1 to 2 ranks, adnate to rotundato-adnate, about 2–3 mm broad, argillaceous, occasionally with a flush of pink or lilac in the beginning, then argillaceous brown to cinnamon, edge white-fimbriate. *Stipe* slender, 15–30 × 0.7–1.7 mm, often flexuose, equal or attenuate below, base white-tomentose and somewhat bulbillose; surface shaggy and greyish fibrillose, subsquamulose especially above glabrescent, top fibrillose-floccose, dingy cream to pale sordid brown, when young and fresh often with a flush of pink or lilac toward the top, pith whitish.

Spores pale olive-brown under the microscope, 9.2–10.9 ... (12.5) × 4.7–5.9 ... (6.3) μ, ovoid to subcylindric, often with a suprahilar depression, when subcylindric often slightly constricted halfway, apiculus well differentiated, guttulate; basidia 25–34 × 8–11 μ, tetrasporous, with yellow granulae when mature (observed in fresh specimens); cheilocystidia 35–60 × 8–20 μ, abundant, hyaline, very thin-walled, subcylindric or sublageniform, naked, with yellow gutta-like exudations at or near the top or with dispersed and often large crystals of oxalate of lime; pleurocystidia present but scarce, often cylindric and relatively small; superficial hyphae of squamulae of young specimens consisting of vesiculose, botuliform or broad-cylindric elements, 35–80 × 8–20 μ, with a pale yellowish membranal pigment, deeper hyphae of squamulae and superficial hyphae of pileus rather intricate, 5–12 μ broad, incrusted with yellow-brown pigment; at the extreme apex of the stipe some rudimentary cystidia or septate hairs terminating in a cystidium-like cell, soon passing into arachnoid fibrillae beneath.

Observations. This tiny species, remarkable for the slender flexuose stipe, often attenuate below and delicately flushed with pink or lilac at the top when very young and fresh, the convex grey-brown squarrose pileus, the hoary squamulae and the primitive cystidia, will often have been confused with some

small species of the *Inocybe obscura*-complex. Only Rea seems to have given an adequate description and a rather good figure, but he overlooked the cystidia. This is not surprising since we know that the cheilocystidia look much like ordinary "marginal cells". Nevertheless, the yellow resinous exudations and the crystals of oxalate of lime and, more especially, the presence of these cells on the sides of the gills point to these structures being true cystidia.

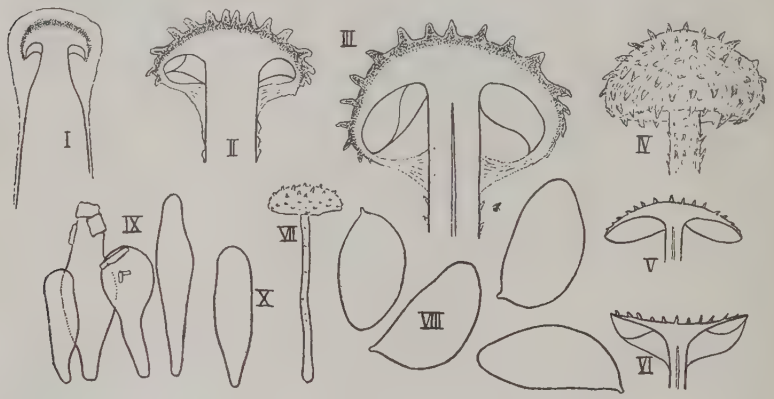

Plate 3 – *Inocybe squarrosa* Rea. Fig. I: section 15x. Fig. II: section 8x. Fig. III: section 7x. Fig. IV: young pileus 4x. Fig. V–VI: sections 2x. Fig. VII: carpophore 1x. Fig. VIII: spores 2000x. Fig. IX: cheilocystidia 500x. Fig. X: pleurocystidium 500x.

The development of the squamulae is illustrated in *Pl. 3, fig. I–III*. In an early stage (*I*), the squamulae are not yet indicated and the brown, primordial pileus-surface is wrapped up in a whitish universal veil of considerable thickness. When later on the surface of the pileus increases, the growth of the universal veil cannot keep pace with it or comes to a standstill, so that this veil breaks up into patches. Each of these patches is invaded by the brown-coloured hyphae of the cuticular layer of the pileus and the incipient squamulae are formed (*II*). Gradually, the multiplying brown cuticular hyphae become more and more predominant and the whitish remnants of the veil are reduced in the end to an extremely thin coating of fibrillae, still most pronounced at the tips of the squamulae. The presence of these fibrillae greatly contributes to the peculiar pepper-and-salt aspect of the pileus of adult specimens.

This small, smooth-spored, cystidiate *Inocybe* with its strongly developed veil and its practically acystidiate stipe seems to be most related to the species of Heim's stirps *Flocculosae*.

It should be noticed that Pearson & Dennis (1948. 182) identified the present species with *Inocybe cincinnata* Fr. which is a point of view which I am unable to follow. As a matter of fact, Dr Dennis in a recent letter stated that he is now rather inclined to think that *I. squarrosa* and *I. cincinnata* are not identical. I propose to come back on *I. cincinnata* and allied species in a future paper.

Common in damp localities, often gregarious and somewhat fasciculate in copses under *Salix* and *Alnus*, and regularly collected from 1928 onward in most parts of the Netherlands.

Lepiota clypeolarioides Rea, Brit. Basidiomyc. 69. 1922 *versus* **Lepiota pseudohelveola** Kühner, Bull. Soc. Myc. Fr. **52**: 221. 1936.

In the course of October 1954, a small *Lepiota*, new for our country was collected several times by Mr Swanenburg de Veije on a lawn with scattered trees (*Quercus*, *Betula*, *Abies*) in the dunes near Castricum.

Under his guidance Mr Bas had the opportunity of gathering a good number of fresh specimens and the latter did not hesitate in applying to these the name of *Lepiota pseudohelveola*, whereas, on receiving some carpophores that had kindly been sent to me, I rather thought of the possibility of *Lepiota clypeolarioides*. This disagreement, emphasizing the close relationship of the two species, induced me to compare the specimens of Castricum with the collection of *Lep. clypeolarioides*, preserved in alcohol in the Rijksherbarium at Leiden, and already studied in a former paper (1943).

As a result I can fully confirm the determination by Mr. Bas and I consider the plant of Castricum as belonging to *Lep. pseudohelveola*. Nevertheless, the differences between the fungi studied are so little conspicuous that one might be tempted to fuse the two species into one. I think, however, that this is not yet justified. Only a careful comparison of new collections will permit us to say whether we are dealing here with the extremes of one variable species or with two well-separated taxa.

A short summary of the differential characters, separating the two collections, is given in the following lines.

	Lep. pseudohelveola	*Lep. clypeolarioides*
Coating of the cap:	dingy brown with a flush of pink	ferruginous to ferruginous-ochre
Colour of the stipe:	basal half white at first, then pale brown or pinkish brown, rather dark in the end	basal half not discolouring, remaining white
Spores:	6.8–7.7 ... 8.8 ... (9.8) × 4–4.7 ... (5.0) μ	6.3–7.0 × 4.1–4.7 μ

Leucoagaricus purpureo-lilacinus spec. nov. – *Pl. 4; pl. 8, fig. III–IV.*

Pileus 30–60 mm broad, convex or plano-convex, umbonate, margin ± incurved, often wavy, surface dry, centre smooth, "subnitid", dark purple brown, toward the margin often inconspicuously cracked into appressed squamulae and fading to a pale purplish incarnate; flesh white. *Lamellae* crowded, 70–100, lamellulae of 2 ranks, rather narrow, free, "white", cream to cream-incarnate when dried, edge eroded. *Stipe* 40–75 × 6–10 ... (14) mm, incrassate toward the subradicating white-villose base, glabrous, white, pale lilac incarnate toward the base; annulus halfway or higher, ascending, spreading, often deciduous, submembranaceous, white, margin slightly thickened and more or less serrate, decurved or incurved.

Spores pale pink-lilac (Séguy 20 to 19) in the mass, 8.3–10.0 ... 12.2 × 4.1–5.1 μ, narrowly ovoid to ellipsoid, pseudoamyloid, endospore metachromatic in cresyl-blue, epispore very thin, with a lentiform thickening at the apex, not penetrated by a metachromatic poral tractus; basidia 24–30 × 6–7 μ, tetra-

sporous; marginal cells abundant, 24–48 × 8–10 μ, cylindric to subclaviform, often with small scattered crystalline particles; trama of the lamellae regular, hyphae 7–15 μ broad, subhymenium = $^1/_2$ hymenium; superficial layers of pileus composed of repent, radial subgelatinous hyphae, 5–8 μ in diameter, with a brownish membranal pigment; clamp-connections probably absent, only rare false clamps observed.

Pileo 30–60 mm lato, convexo vel plano-convexo, umbonato, margine plus minusve incurvato, sicco, centro glabro, obscure purpureo-brunneo, parte exteriore majore interdum squamulis appressis inconspicuis disruptis, pallide incarnata, purpureo-inhalata, carne alba. Lamellis confertis, 70–100, lamellulis 1–2 ordinibus, angustis, liberis, in siccis pallide cremeo-incarnatis. Stipite 40–75 mm longo, 6–10 ... (14) mm lato, ad basin incrassato radice brevi albo-villosa protracta, glabro, albido, deorsum pallide incarnato-lilacino; annulo infero in parte superiore stipitis, submembranaceo, explanato, interdum deciduo, albo, margine plus minusve inciso, leviter incrassato, decurvato vel incurvato. Sporis in cumulo pallide roseo-lilacinis, 8.3–10.0 ... (12.2) × 4.1–5.1 μ, anguste ovoideis vel ellipsoideis, pseudo-amyloideis, endospora cresylo-caeruleo metachromatibus; basidiis tetrasterigmatibus; cellulis sterilibus acie lamellarum numerosis, 24–48 × 8–10 μ; trama lamellarum regulari; hyphis superficialibus pilei repentibus; hyphis fibuligeris nullis.

Observations. Characters noticed by the first collector, but not observed by me, since I only studied dried specimens, are put between quotation-marks. This species is characterised by the purple-brown pileus and the relatively large and narrow spores, being pink-lilac in the mass. The surface of the pileus of the specimens collected in 1952 was provided with a coarse and elevated reticulation, probably due to unusual meteorological circumstances.

Zuid-Holland: Wassenaar, "Voor-Linden", 5 X 1952, *Maas Geesteranus 9111*, on sandy humous soil outside a deciduous wood on the inner margin of the dunes, among grass under scattered *Acer* and *Pinus* (L); same locality, 24 X 1953, *Bas 400*, same data (type, L).

Pluteus exiguus (Pat.) Sacc. Syll. Fung. **5**: 671. 1887 – *Agaricus exiguus* Pat. Tab. Anal. Fung. **1**[5]: 190. 1886 – *Pl. 5, fig. I–IV.*

Pileus 10–18 mm broad, plano-convex, soon depressed in the centre, disc densely hispid under a lens with fuliginous to sepia-fuliginous squamillulae, toward the margin squamillulae more dispersed and recurved to adnate on a dirty grey ground, flushed with pink by the transparancy of the pileus-flesh, slightly pellucidly-striate; flesh soft, relatively thick, hyaline grey especially under the cuticle, colour somewhat variable and dependent on the incidence of the light, smell undistinctive. *Lamellae* subcrowded, 30–35, lamellulae of 1 to 2 ranks, free, ventricose, salmon-pink, edge slightly eroded. *Stipe* 25 × 2.5 mm, enlarged toward the base, curved, fistulose, hyaline-white, waxy-pellucid, grey-pellucid at the very top, upper part white-pubescent; flesh very soft and fissile, white, cavity coated with satiny fibrils.

Spores pale salmon-pink under the microscope, 5.9–6.9 ... (8.0) × 4.7–5.8 μ, Q = 1.25, pruniform; basidia 24–32 × 7–8 μ, tetra- sometimes bisporous; cheilocystidia lageniform, often with a narrow neck (2 μ broad) and a well differentiated capitellum (3–8 μ broad), suggesting the lecythiform cystidia of many Conocybes, pleurocystidia absent; subhymenium = hymenium; trama of lamellae inverse, hyphae about 16 μ broad; pileus-flesh of interwoven hyphae; epicutis palissadiform, constituted of cylindric hyphae with short articles, crowned with

Plate 4 – *Leucoagaricus purpureo-lilacinus* Huijsm. 1x. Fig. I–II: specimens of type collection *Bas 400*. Fig. III: specimen of collection *Maas G. 9111*.

a large subclaviform end-cell (45–72 × 12–20 μ), end-cell and often some of the lower elements coloured by a dark vacuolar pigment; stipe with bundles of uncoloured hairs, cylindric, not club-shaped, 150 μ and longer, 8–10 μ broad, consisting of 20–60 μ long cells; clamp-connections not observed.

Observations. This little-known fungus is well characterised by the shape of its cheilocystidia, the dark pileus, hispid in the centre, and the remarkable translucidity of the flesh. The pileus-flesh is not transparant in the strict sense, since the striation of the lamellae is scarcely to be seen from above. Yet, the colour of the gills contributes to give the surface of the pileus its peculiar tinge and the watery-grey aspect of the top of the stipe is produced in main part by the dark colour of the superficial layers of the pileus, filtering through the flesh.

The figure of Patouillard of *Pluteus exiguus* gives a good idea of our plant which is also described in the "Fl. An.".

Gelderland: Beek (gem. Bergh), "De Bijvank", 5 VII 1952, *Huijsman*, on humous soil (L); repeatedly found again on the same spot.

Pluteus luctuosus Boudier, Bull. Soc. Myc. Fr. **21**: 70. 1905 – *Pl. 5, fig. V–VIII.*

Pileus 11–18 mm broad, convex, obtusely umbonate, slightly striate at the margin, surface dry, velvety and very dark brown-fuliginous, centre nearly black, sometimes rivulosely cracked near the margin; flesh rather thick, fragile, white. *Lamellae* moderately crowded, lamellulae of 1 rank, free, ventricose, 2,5 mm broad, pink-incarnate, sides minutely dotted with black points (pleurocystidia) and edged with a black line. *Stipe* 12–18 × 1 1.5 mm, curved, somewhat incrassate toward the white-tomentose base, tubulose, glabrous, top slightly pubescent.

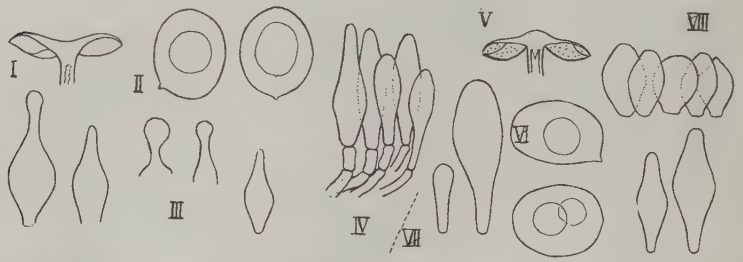

Plate 5 – Fig. I–IV, *Pluteus exiguus* (Pat.) Sacc.; I: pileus 1x; II: spores 2000x; III: cheilocystidia 500x; IV: superficial cells of pileus 250x. Fig. V VIII, *Pluteus luctuosus* Boudier; V: pileus 1x; VI: spores 2000x; VII: cystidia; VIII: superficial cells of pileus 250x.

Spores very pale salmon pink under the microscope, 5.7–7.0 × 4.6–5.5 μ, Q = 1.3, mostly uniguttulate; basidia tetrasporous, 20–30 × 8–10 μ; cheilocystidia abundant, lageniform, clavate or subcylindric, 40–80 × 12–18 μ, with brown vacuolar pigment, pleurocystidia rather scarce, still larger than the cheilocystidia and also with a brown cell-sap; stipe with very dispersed colourless, sublageniform or cylindric caulocystidia, more crowded at the extreme top, where many of them are coloured brown by a vacuolar pigment. Clamp-connections not observed.

Observations. This small *Pluteus*, belonging to the *Cellulodermi* Fayod, is easily distinguished by the dark coloured cystidia of the gills, dotting the sides and lining the edges with black.

In 1935 Kühner gave a description of this species under the name as given by Boudier. However, in the "Fl. An." *Plut. luctuosus* is reduced to the rank of a variety of *Plut. marginatus* (Quél.) Kühn. & Romagn. This is not correct according to the rules, since Quélet (1884) described *marginatus* as a variety to *Pluteus phlebophorus*. So, Boudier's specific epithet, having priority, should be re-established.

Gelderland: Beek (gem. Bergh), "De Bijvank", 29 VI 1952, *Huijsman*, only 2 specimens on a stick in a moist ditch in frondose wood (L).

Pluteus minutissimus R. Maire, Publ. Inst. Bot. Barcelona **3**[4]: 94. 1937 *Pl. 6.*

Pileus 10–25 ... (30) mm broad, plano-convex to applanate, even depressed, rarely umbonate, often somewhat disciform, velvety to granular, reticulato-

venose on the disc, with eradiating venulae, more exceptionally smooth, very dark fuliginous-black to nearly pitch-black; flesh thin, fragile, white, odour indistinct. *Lamellae* crowded, 40 45, lamellulae of 1 to 2 ranks, free, subventricose, up to 2.5 mm broad, salmon-incarnate, edge minutely fimbriate. *Stipe* 35 × 1.5 mm, but in general much smaller, thin and slender, fistulose, white, sordid white and somewhat floccose-fibrillose toward the slightly incrassate base, lower half to two thirds with dark flocculi (hand-lens!).

Spores pale salmon-pink under the microscope, 5.2–6.0 × 4.8–5.2 μ, subspheric, Q = 1.1, mostly uniguttulate; basidia tetrasporous; pleuro- and cheilocystidia rather abundant, 35–50 × 13–28 μ, claviform, but more frequently – especially the pleurocystidia – piriform, pedicellate, hyaline; trama of lamellae inverse; superficial layer of pileus composed of polymorphic cells (30–100 × 12–30 μ): a) sphaerocysts reaching a diameter of about 30 μ; b) piriform, pedicellate cells and c) elongate, subfusiform, erect cells, all of which with a dark vacuolar pigment; clamp-connections not observed.

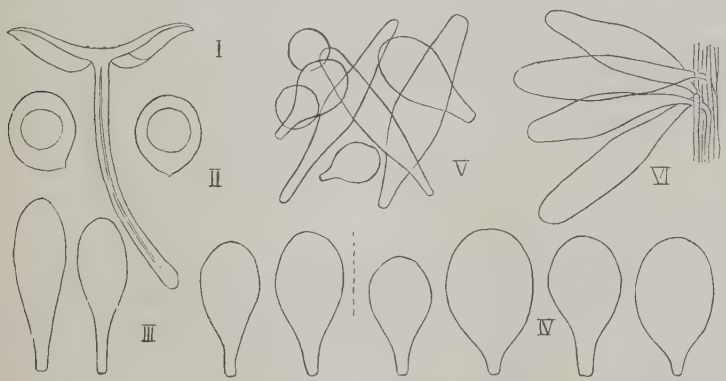

Plate 6 – *Pluteus minutissimus* R. Maire. Fig. I: section Ix. Fig. II: spores 2000x. Fig. III: cheilocystidia 500x. Fig. IV: pleurocystidia 500x. Fig. V: crushed mount of superficial cells of pileus 250x. Fig. VI: caulocystidia 250x.

Observations. The remarkable polymorphism of the superficial pileus-cells furnishes here a characteristic of paramount importance. In contrast to this a great instability of many other characters was observed in various collections. So I can state that small specimens, with a pileus-diameter of about 10–15 mm, are far more common than larger ones, that the reticulation of the pileus-surface may be almost absent, that an umbo is sometimes seen, that size and shape of the cystidia may vary in various collections and, especially, that the pubescence and the minute dark flocci of the stipe may be almost absent, or at least difficult to discern, in less fresh or small specimens.

Nevertheless, even when the pronounced variability is taken into account, one might be tempted to doubt the identification, as Maire, in his diagnosis, laid stress on the presence of a glabrous stipe, only slightly pruinate at the apex. However, the value of this feature which Maire thought to be a character may

be contested, since Romagnesi informed me that, as he had been told by Maire, the description was based only on a single specimen.

Jules Favre (1948) described under the name of *Pluteus minutissimus* a collection from Les Guinots, very well in accordance with Maire's diagnosis. In particular the stipe of the Jurassic plant is said to be glabrous and the cystidia are claviform (see Maire: "cystidiis clavatis..."). I think the identification of Favre is justified. Now, next to *Plut. minutissimus*, Favre described a *Pluteus granulatus* Bres. var. *tenellus*, characterised by delicate brown granulations of the lower part of the stem and by somewhat piriform cystidia. Mr Favre, to whom I sent some of my dried specimens, was very decided in declaring these to be identical with the latter fungus.

The present state of our knowledge prevents me from being too assertive. If *Plut. minutissimus* sensu Favre and *Plut. granulatus* var. *tenellus* fall within the range of variability of one species, the epithet of Maire could be maintained for both of them. If, however, Favre should be right in assuming a dualism, *Plut. granulatus* var. *tenellus* ought to be renamed, as this fungus cannot be a variety of *Plut. granulatus*, which does not possess the polymorphism of the elements of the superficial layer of the pileus.

The colour of the pileus of my collections was little variable. On the contrary, Kühner & Romagnesi (1953) recorded occasionally a whitish or a greyish colour.

Finally Kühner established in the "Fl. An." a forma *major*, "venant sur les souches". I always found my specimens on the ground, the small as well as the large ones, corresponding in all other respects to the form of Kühner.

Gelderland: Beek (gem. Bergh), "De Bijvank", throughout VIII 1952, *Huijsman*, single to subgregarious on the ground in frondose wood (L).

Pluteus umbrinellus (Somm. ex Fr.) Bres. Ic. Myc. **11**: 544. 1929 – *Pl. 7.*

Pileus 20–32 mm broad, convex, soon becoming plano-convex or even depressed, margin crenulate, sulcato-striate half-way up, very hygrophanous, centre slightly reticulato-venose, pellucidly-striate in the sulci, pale umber to

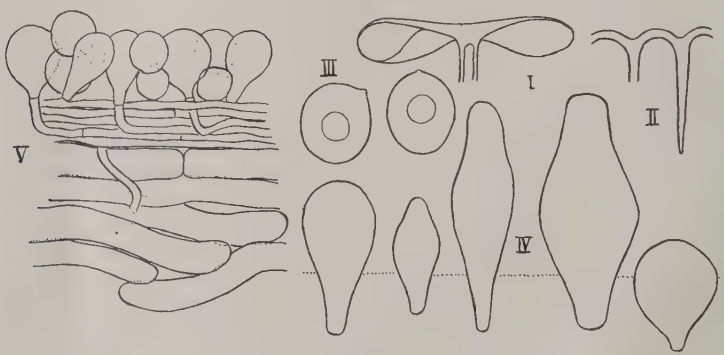

Plate 7 – *Pluteus umbrinellus* (Somm. ex Fr.) Bres. sensu Bres. Fig. I: section of pileus 1x. Fig. II: tangential section through pileus at $^1/_3$ from margin to show the sulci, semidiagrammatically. Fig. III: spores 2000x. Fig. IV: cheilocystidia 250x, not naturally so crowded. Fig. V: radial section through surface of pileus 250x.

wood colour, darkest in the centre, pale greyish brown when dry, pallescence beginning in a zone around the disc; flesh fragile, very thin toward the margin, relatively thick in the centre, white, smell indistinct or slightly mealy. *Lamellae* moderately crowded, about 32, lamellulae of 1 or 2 ranks, free, ventricose, up to 4–5 mm broad, pink-incarnate. *Stipe* reaching 35 × 4.5 mm, equal or slightly thickened toward the base, fistulose, fragile, innato-fibrillose, slightly pruinate at the apex only in young specimens, white.

Spores pale salmon pink under the microscope, 6.4–6.9 × 5.3–5.9 μ, Q = 1.2, subspheric, with a large central gutta or multiguttulate; basidia tetrasporous; cheilo- and pleurocystidia scattered, 35–70 ... (100) × 14–25 ... (30) μ, clavate or sublageniform; subhymenium = hymenium, cellular; trama of gills inverse; epicutis consisting of a layer of sphaerocysts, about 20 μ in diameter and containing a pale brown vacuolar pigment; clamp-connections present.

Observations. *Pluteus umbrinellus*, pictured by Bresadola, could only be confused with *Plut. phlebophorus* sensu Konrad & Maublanc (= *Plut. chrysophaeus* sensu Kühner & Romagnesi), also belonging to the *Cellulodermi* Fayod. *Plut. umbrinellus* is distinct in the pronounced hygrophanity, the marked supralamellar furrows of the much paler cap, etc.

Gelderland: Beek (gem. Bergh), "De Bijvank", 29 VII 1952, *Huijsman*, on fallen twig in frondose wood (L); Doetinchem, "De Slangenburg", 18 X 1945, *Huijsman*, on fallen twig in frondose wood (L).

Psathyrella lacuum spec. nov. – *Pl. 8, fig. V–IX.*

Type in Rijksherbarium, Leiden.

Pileus 4–10 mm broad, exceptionally reaching a diameter of 20 mm, planoconvex to applanate, surface in the beginning with scattered white arachnoid fibrils, sometimes persisting and simulating a system of reticulate veins, hygrophanous, translucently striate up to the disc, pale pink to pinkish lilac from the colour of the lamellae shining through, when dry milk-white, cream to dingy yellow in the centre, edge crenulate; flesh very thin and very fragile, hyaline-white, odour and taste not distinctive. *Lamellae* crowded, about 24, lamellulae of 2 ranks with indications of a third, equal to subventricose, rather narrow, adnate, white in primordia, becoming pale greyish lilac (Séguy 178), edge remaining pallid. *Stipe* 10–15 mm long, 0.7–1.5 mm thick, curved, equal, slightly thicker at the base, tubulose, very fragile, hyaline-white, white-flocculose all over when seen through a lens, streaked with a few white fibrillae when young.

Spores 6.4–7.5 ... 8.5 × 4.3–5.1 ... (5.4) μ, purplish lilac in thin deposit, moderately dark under oil immersion in KOH, ellipsoid to subreniform, with a wide apical pore; basidia 18 × 7 μ, tetrasporous, coprinoid, i.e. with a narrow stalk; edge of the lamellae sterile from piriform to sphaeropedunculate, thin-walled and hyaline paracystidia, 18 25 × 9 16 μ, well-differentiated cheilocystidia extremely rare (only seen one or two in many slides), utriform, pleurocystidia absent; trama of lamellae regular, hyphae up to 20 μ broad; subhymenium cellular; pileus-trama with a surface-layer of sphaerocysts (one cell deep), 40 45 μ in diameter; caulocystidia like marginal cells of the lamellae but more elongated, subtruncate, often in bundles, speckled with numerous subcrystalline granulae of oxalate of lime; clamp-connections present.

Pileo 4–10 ... (20) mm lato, plano-convexo dein applanato, interdum fibrillis arachnoideis albis conspersis, hygrophano, pellucido-striato, roseolo- vel roseo-lilacino-inhalato, sicco lacteo, disco cremeo vel sordide flavo; carne tenuissima, fragillima, hyalino-alba, odore nullo. Lamellis confertis, plus minusve 24, lamellulis 2 ... (3) ordinibus, subaequalibus, angustis, adnatis, in primordiis albis. Stipite 10–15 mm longo, 0.7–1.5 mm crasso, curvato, subaequali, tubuloso, fragillimo, hyalino-albo, omnino tenuiter albo-flocculoso, initio subfibrilloso. Sporis 6.4–7.5 ... 8.5 × 4.3–5.1 ... (5.4) μ, in cumulo tenui purpureo-lilacinis, sub microscopico modice obscuris, ellipsoideis vel subreniformibus, poro apicali conspicuo; basidiis tetrasterigmatibus, pedicellatis; acie lamellarum cellulis sterilibus piriformibus vel sphaeropedunculatis numerosis, 18–25 × 9–16 μ, cheilocystidiis veris rarissimis, utriformibus, pleurocystidiis nullis; trama lamellarum regulari; superficie pilei e unico strato cellulis sphaericis constituto; caulocystidiis saepe fasciculatis, cellulis sterilibus acie lamellarum similibus sed gracilioribus; hyphis fibuligeris.

Observations. Probably *Psath. lacuum* has been overlooked heretofore on account of its habitat, just above the level of the water. The innominate species, referred to by Romagnesi in the "Fl. An." (373, note 17) is, at least, much related. Mr Romagnesi kindly sent me a fragment of his collection, characterised by slightly narrower spores and the presence of many utriform cheilocystidia. *Psathyrella typhae* var. *sulcato-tuberculosa* Favre (1948. 152) is distinguished by larger spores and a sulcato-tuberculose margin of the pileus. Still larger are the spores of *Psathyrella typhae* (Kalchbr.) Kühn., a species which is in want of re-examination. The spores of the collection of Schweers (1941), referred to by Romagnesi in the "Fl. An", turned out to be considerably darker even than the spores of *Psath. lacuum*, whereas Romagnesi (1953), for his own material, as well as Boudier (1897) for the variety *iridis*, lay stress upon the marked paleness of the spores of *Psath. typhae*. It is obvious that we have here two species with equally large but differently coloured spores.

Gelderland: Doetinchem, 29 VI 1953, *Huijsman*, subcaespitose on the wooden handle of a brush standing in a pot filled with water in a building. Transferred to the author's home and put into water again, new tufts of carpophores continued to appear at intervals of 2 to 3 months (type, L).

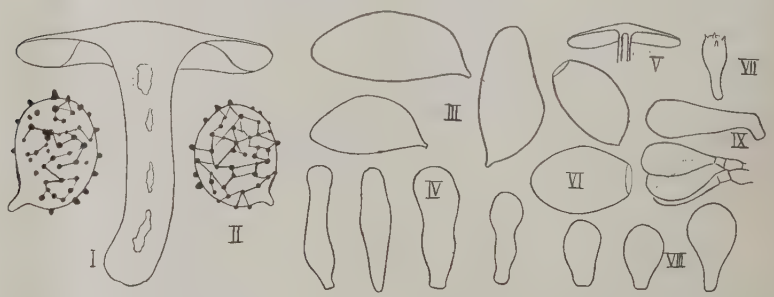

Plate 8 – Fig. I–II, *Russula laccata* Huijsm.; I: section 1x; II: spores 2000x. Fig. III–IV, *Leucoagaricus purpureo-lilacinus* Huijsm.; III: spores 2000x; IV: marginal cells 500x. Fig. V–IX, *Psathyrella lacuum* Huijsm.; V: pileus 1x; VI: spores 2000x; VII: basidium 500x; VIII: marginal cells 500x; IX: caulocystidia 500x.

Russula laccata spec. nov. – *Pl. 8, fig. I–II.*

Type in Rijksherbarium, Leiden.

Pileus 25–50 mm broad, plano-convex, often with a broad and ± disciform

umbo, in the end often concave or cup-shaped; surface lubricous, shining, as if varnished, crimson, blood red to violet red, more rarely wine-coloured, darker at the disc, when dry pruinose to chagreened in the centre and verging to violet, dull, cuticle almost entirely separable, subcuticular layer pinkish, margin distinctly striate; flesh very brittle, white, odour rather faint, reminiscent of apples or like the smell of *Russula queletii* or *cavipes*, but much attenuated, taste acrid. *Lamellae* subdistant, 60–80 reaching the stem, lamellulae sporadic, often connate, subventricose, up to 5–6 mm broad, rounded in front, subadnate to free behind, with interconnecting veins, white, soon becoming cream; edge entire, sometimes reddish near the circumference. *Stipe* up to 50 × 10 mm, often slightly thickening toward the base, core floccose-spongy to subcavernose, extremely brittle, very aqueous and remarkably waxy-hyaline when fresh, surface rather smooth, indistinctly reticulosely wrinkled, white, base often becoming yellowish especially when very moist, occasionally even reddish in sodden *Sphagnum*.

Spores B ... (C) in mass, 7.1–8.0 × 6.1–6.8 μ, ellipsoid, echinulate, projections up to 0.8 μ long, anastomosing or delicately reticulate; basidia 30 44 × 9–10 μ, tetrasporous; pleuro- and cheilocystidia less numerous than in *Russ. fragilis* sensu J. Schaeffer (1952), the cheilocystidia protruding up to 30 μ, fusiform to fusiform-ellipsoid, often acuminate or with a short protraction, S.V. + +; dermatocystidia numerous, S.V. + +, up to 8 μ broad and 60–130 μ long, obtuse at the apex, with 1 or 2 septa, not noticeably clustering, in deeper layers narrow (3–4 μ thick) and flexuose vascular hyphae, sometimes hundreds of μ long, with granular contents in S.V.

Reactions: NH_4OH —; guaiacum + blue-green after a few minutes.

Pileo 25–50 mm lato, plano-convexo, saepe late et obtuse umbonato, aetate interdum concavo vel cupuliformi, lubrico, nitenti, quasi laccato, nunc carmineo, nunc sanguineo vel subviolaceo, raro vinaceo, disco obscuriore, sicco centro subpruinoso, opaco, sub cute perfecte secernibili leviter rosaceo, margine conspicue striato; carne fragillima, alba, odore ut *Russula queletii* sed debiliore, sapore acri, ope NH_4OH – (ut in stipite). Lamellis subdistantibus, 60–80, lamellulis sparsis, subventricosis, antice rotundatis, albis mox cremeis. Stipite maxime 50 mm longo, 10 mm crasso, floccoso-spongioso dein subcavernoso, fragillimo, albo, valde aquoso, ceraceo-hyalino, basi vulgo lutescente. Sporis in cumulo B ... (C), 7.1–8.0 × 6.1–6.8 μ, ellipsoideis, echinulatis, subreticulatis; dermatocystidiis numerosis, ope sulfovanillini obscurissime coloratis.

Observations. The colour of the pileus of this *Russula* reminds one of *Russula fragilis* sensu J. Schaeffer (1952) et Kühner & Romagnesi (1953) (= *R. fallax* Fr. sensu Cke et auct. plur.), but the habitat, the pronounced striation of the cap and the colour of the gills of adult specimens, readily distinguish it. Neither can it belong to *R. nitida* Fr. sensu J. Schaeffer (1952), often growing in similar habitats, because of its acridity, spore-ornamentation, etc. The next resemblance is to *R. aquosa* Leclair, which has in common the habitat, the marked aquosity of the flesh and the colour of the cap. But there are many other characters which forbid an identification: the colour of the spores in *R. laccata* is not white but intermediate between B and C, the taste is unmistakably sharp, the smell is that of *R. cavipes* though less strong, the margin of the pileus is markedly striate and not only in old specimens, the lamellae are rounded in front, whereas finally the Dutch species is not dependent on conifers.

It is obvious that *R. laccata* belongs to the *Violaceae* Rom. Here it is next to *R. olivaceo-violascens* Gillet, a rare species, well-known to only few mycologists. I was happy to receive from one of these, the distinguished Mme Le Gal of Paris, the confirmation that the Dutch fungus, never exhibiting any tinge of green or olivaceous, did not resemble the species of Gillet. Moreover, the plate of Gillet does not suggest in the least our species.

Rather than considering *R. laccata* a subspecies of *R. olivaceo-violascens* and increasing the confusion already existing in the genus *Russula*, I think it better to describe the Dutch *Russula* as a new species, indicating at the same time its position within the genus.

Gelderland: Winterswijk, Korenburger Veen, 28 X 1952, *Huijsman*, gregarious in swampy places, on *Sphagnum* and other mosses, frequently with the base standing in water, near *Myrica gale* whether or not accompanied by *Salix* and *Betula* (type, L); 10 X 1953, *Huijsman*, same data (L); not infrequently in similar habitats near Doetinchem and Vorden.

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NOTES ON DUTCH FUNGI - II

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ASCOMYCETES

Galactinia badiofusca Boud. Hist. Class. Discomyc. Europe 48. 1907; Icon. Mycol. 4: 164. 1905–1910 – *Fig. 4.*

Apothecia solitary or in small groups and cespitose, up to 35 mm diam., shortly stipitate to almost sessile, at first cupuliform, becoming discoid, sometimes deformed through mutual pressure. Receptaculum yellow-brown to rusty yellow, turning purplish brown, somewhat felty and verrucose towards the margin, white tomentose at the base. Disc purplish brown, later on dark bistre or black-brown suffused with a pale green or olive green bloom especially towards the centre. Medullary excipulum whitish. Ectal excipulum of textura globulosa, brownish. Trama when cut exuding a watery-milky fluid which turns pale blue. Asci cylindrical, 8-spored, with smoke brown contents, J + faintly bluish, 365–415 × 14–16 μ. Spores obliquely 1-seriate, colourless, 1-celled, ellipsoid, containing 1 or, more rarely, 2 large oildrops, verruculose, 13.4–15.2 × 8.1–10.3 μ. Paraphyses septate, colourless, 4–5 μ wide, clavate and yellow-brown at the apex, 8–10 μ, apices wrapped in a brownish mucous membrane which causes the paraphyses to adhere to one another.

New to the flora.

Utrecht: Bunnik, Oud-Amelisweerd, 22 VII 1954, *Bas 535*, on clayey soil of path under *Fagus* (L).

Plicaria trachycarpa (Curr.) Boud. Hist. Class. Discomyc. Europe 50. 1907; Icon. Mycol. 4: 169. 1905–1910 – *Peziza trachycarpa* Curr. Trans. Linn. Soc. London 24: 493. 1864 – *Fig. 3.*

Apothecia solitary or clustered, 14–23 mm diam., sessile, discoid, fleshy. Receptaculum furfuraceous, ochraceous yellow-brown when young and remaining so in the centre when old, turning dingy purplish brown to brownish violet towards the margin. Disc dark purplish brown to dingy violet-brown. Medullary and ectal excipulum of textura globulosa (with the cells globose to ellipsoid, 80–120 μ wide) passing into and mixed with textura intricata (hyphae 4–10 μ wide), with hair-like excrescences projecting from the cells of the ectal excipulum. Asci cylindrical, narrowed below into short stem, 8-spored, J– or + faintly blue at the apex, 197–255 × 14–18 μ. Spores 1-seriate or zigzag, originally colourless, eventually yellow-brown to smoke brown, 1-celled, spherical, verrucose, 11.2–12.5 μ diam. Paraphyses simple or sparingly branched, septate, colourless, 4 μ wide, with the apex clavate, 6–9 (10) μ, enveloped in a yellow-brown mucous membrane.

On account of the purplish colouring of disc and excipulum our specimens might be referred to what Boudier called var. *ferruginea* (Fuck.) Boud. This I

regard as a mere colour modification of slight importance, which I find confirmed by Mme Le Gal (1953. 79) who, moreover, showed that Fuckel's species is no *Plicaria* but a *Galactinia* instead.

The colour of the disc seems to vary to some extent, as in the original description it is described as "nigro-fuscus", whereas in the accompanying plate it is shown as dark olive-brown.

New to the flora.

Drente: Wittelte-Dwingelo, 18 VIII 1954, *Maas G. 10095*, among bits of charred wood on burnt ground (L).

Noord-Brabant: Leende, Leenderheide, 8 XI 1954, Mrs. *Bas*, on burnt ground (L).

Corynella atrovirens (Pers. ex Fr.) Boud. Bull. Soc. Mycol. France 1: 114. 1885 (non vidi) – *Peziza atrovirens* Pers. Syn. Fung. 2: 635. 1801; Fr. Syst. Mycol. 2: 141. 1823 – *Fig. 2*.

Apothecia erumpent, gregarious, 0.6–1.4 mm diam., sessile, at first globose, becoming discoid, finally truncate obconical, subgelatinous, bluish green to yellowish green. Receptaculum smooth, glabrous. Disc concolorous. Coremia scattered among the apothecia or ocurring separately, single or in small groups or fasciculate, stipitate; stems up to 2 mm high, at first cylindrical, smooth, later on with broadened base, longitudinally ribbed both at the base and the top, whitish tomentose at the base, with globose or flattened head, 0.2–0.4 mm diam. Tramal hyphae moniliform, up to 5–6 μ wide. Asci cylindrical-clavate, 8-spored, J–, 118–158 × 10–12 μ. Spores obliquely 2-seriate, finally clustered at the apex of the ascus, colourless, tardily becoming septate, finally 4–8-celled, cylindrical-subfusiform, straight or curved, at last somewhat constricted at the septa, with blunt apices, 13.4–20.1 × 4 μ. Paraphyses filiform, branched, anastomosing, septate, slightly yellow-green, 1.5–2 μ wide, not incrassate at the apex. Conidiophores branched, colourless. Conidia 1-celled, ellipsoid, colourless, 2–2.5 × ± 1 μ.

There is no material of the type in Herb. Persoon.

Rehm (1896. 486) stated the asci to contain ascospores as well as spermatoid, secondary spores. I failed to find the latter, nor were they mentioned by either Tulasne (1865. 194), Phillips (1887. 325) or Grelet (1948. 41). The first mentioned did describe "those globose or ovoid corpuscles" which "are said to be borne on the extremities of the paraphyses", but wisely enough these were not depicted as being abstricted from the apices of the paraphyses, and as a matter of fact I have been unable to find any.

Miss Destrée (1894. 359) recorded, under the name of *Coryne virescens* Tul., a find of *C. atrovirens* from Loosduinen near The Hague. On examining the material which is preserved in Herb. Oudemans (Groningen) I found that the specimens are referable to some other species which I failed to determine properly. They differ, among others, from our specimens in the spores which tend to become muriform and in the lack of the characteristic, moniliform tramal hyphae.

New to the flora.

Utrecht: Bunnik, Oud-Amelisweerd, 22 VII 1954, *Maas G. 10000*, on decorticated, decaying branch of *Quercus* in damp place in deciduous wood (L).

Geoglossum barlae Boud. Bull. Soc. Mycol. France 4: 76. 1888 (non vidi); Icon. Mycol. 4: 242. 1905–1910 – *Fig. 1.*

Carpophores terrestrial, solitary, 40–55 mm high, simple. Clavula 15–30 × 4–9 mm, lanceolate to linguiform, narrowed towards the acute, obtuse or truncate apex, more or less strongly compressed, with faint or very conspicuous and broad longitudinal median groove, with the hymenium descending further down the stem at the edges on either side of that groove, bistre to black-brown, more rarely with a whitish bloom from the projecting paraphyses. Stem 25–35 × 1–2 mm, longer or, more rarely, shorter than the clavula and clearly differentiated from it, cylindrical or compressed and longitudinally grooved on both sides, straight or somewhat curved, sometimes twisted, squamulose, squamules arranged in transverse, occasionally anastomosing ridges which grow less conspicuous or disappear towards the base of the stem. Asci cylindrical-fusiform, narrowed towards a short stem, 8-spored, 154–197 × 18–20 μ. Spores overlapping fasciculate in the ascus, clavate, acute at the lower end, rounded at the other, 8-celled, at first colourless, simultaneously turning blackish green, 61–75 × 5–6 μ. Paraphyses slightly projecting beyond the asci, not conglutinate, sparingly branched, remotely septate, 3-4 μ wide, colourless, variously curved to spirally twisted, constricted at the septa and slightly tinged fuliginous at the apex, with the terminal cell frequently much enlarged, up to 6–12 (16) μ.

On comparing the above description with that of Boudier it appears that there are several discrepancies which need a discussion. Boudier stated his species to have a stem which is considerably shorter than the clavula and spores which attain a length of 85–95 μ, whereas the apices of the paraphyses are shown contorted in the queerest manner. Grelet (1946. 94) is in accordance with Boudier as to ratio of the lengths of stem and clavula, but in my opinion the length of the stem depends on the height of the surrounding vegetation. Our specimens were found in fairly deep moss which may have caused the stems to grow taller than usual.

If at first sight there seems to be a serious gap between the size of the spores in Boudier's material and those described above, it may be remembered that it is not at all uncommon for species of this genus to have spores which cover a wide range in length. Grelet's measurements (65–85 μ) prove this statement to be correct also for the present species.

With regard to the "crozier-like" appearance of the apical part of the paraphyses, our specimens are intermediate between those depicted by Boudier and by Nannfeldt (1942. 20). The ramification of some of the paraphyses may be considered an individual variation of no great importance.

As far as I am aware the species does not seem to have been recorded beyond France and Portugal.

New to the flora.

Noord-Holland: Castricum, Geversduin, 21 X 1954, *Bas 692*, among mosses in pasture in the dunes with scattered *Betula* and *Abies* (L).

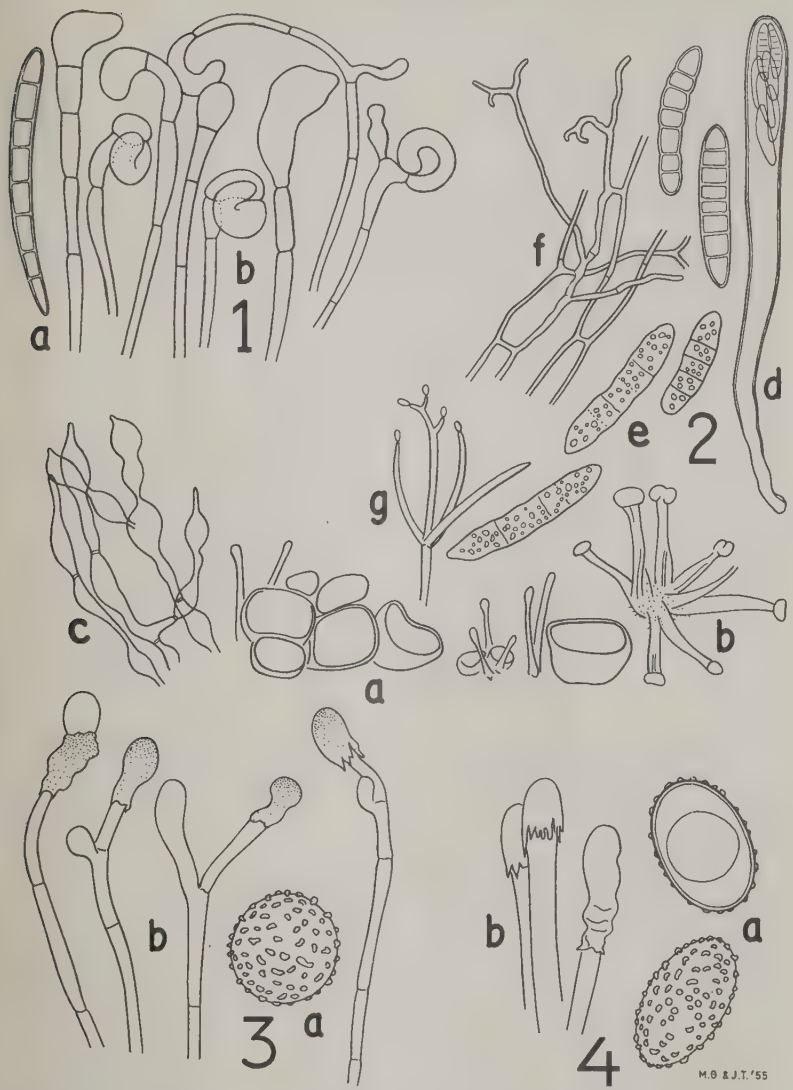

Fig. 1. *Geoglossum barlae:* a. spore 600×; b. paraphyses 600×. Fig. 2. *Corynella atrovirens:* a. apothecia and coremia 15×; b. coremia 15×; c. tramal hyphae 1300×; d. ascus 500×; e. spores 1300×; f. paraphyses 1300×; g. conidiophore with conidia 1300× Fig. 3. *Plicaria trachycarpa:* a. spore 1320×; b. paraphyses 600×. Fig. 4. *Galactinia badiofusca:* a. spores 1300×; b. paraphyses 600×.

BASIDIOMYCETES

Thelephora atrocitrina Quél. Mém. Soc. Emul. Montbéliard 15. 1875.

Our specimens perfectly match the description given in Bourdot & Galzin (1928. 469), as well as Quélet's plate (tab. 2, fig. 8). When trying to measure the basidia of the dried material, which proved almost impossible since they do not revive, I noticed that the hymenium exudes a matter which stains blue-green in KOH. This feature is by no means common to all species of the genus, and might well be valuated as a differential character. In this connection it is of interest to note that Lentz (1942. 177) actually used this character in his key.

Considering the scarcity of information on the distribution of the species in Europe the present find is of importance.

New to the flora.

Limburg: Echt, De Doordt, 21 VIII 1954, *Verschueren*, on clayey soil in deciduous wood (L).

Clavaria greleti Boud. Bull. Soc. Mycol. France 33: 13. 1917.

Carpophores terrestrial, solitary or in twos with the stems approached at the base, 60–90 mm high, simple, uniformly fuliginous grey-brown to bistre. Clavula 40–70 × 2.5–6 mm, nearly cylindric to subfusiform, compressed, occasionally sulcate on both sides, otherwise smooth, narrowed towards the obtuse or subacute apex, becoming hollow. Stem up to 20 mm, more or less cylindric, not distinctly differentiated from the clavula, glabrous except for the white cottony base. Flesh paler concolorous, hyphae without clamps. Smell (of old specimens) described by a colleague as reminding of *Amanita citrina*. Basidia 45–60 × 6–8 μ, cylindric-clavate, with a distinct loop-like clamp at the base when young, not secondarily septate, 4-spored. Sterigmata 8.1–11.6 μ long, straight. Spores 8.1–9 × 6.3–7.2 μ, ovoid, smooth, with multiguttulate contents, with distinct apiculus.

Such characters as the absence of clamps in the tramal hyphae (whether the hyphae are secondarily septate I did not notice), the 4-spored, not secondarily septate basidia, with straight sterigmata indicate that the species is a true *Clavaria*. The fact that the young basidia are clamped at the base places the species in the subgenus *Holocoryne*.

Quite a number of dark Clavarias have been described, the relation of which to *Cl. greleti* will be briefly discussed in alphabetical order.

Cl. atrobadia Corner (1950. 228) differs from *greleti* in that it grows in tufts and has smaller, aguttate spores.

Cl. atrofusca Vel. (1939. 164), as Corner who had studied the type kindly informed me, has no clamps at all, ellipsoid spores measuring 6–8 × 3.5–5 μ, and remarkable cystidia.

In *Cl. atroumbrina* Corner (l.c. 229) the clavula is thinner than in *greleti*, becoming longitudinally rugulose, whereas the spores are smaller, aguttate and of different shape.

Cl. avellano-nigrescens Imai (1931. 20) is said by the author to differ from *greleti* in the drab colour of the young fruitbody. Besides, the spores are globose and smaller.

Cl. cinereo-atra Rick (1906. 12) cannot be the same as *greleti* since the stem

is described as originally white, then straw-coloured, whereas the spores are subglobose and much larger, having a diameter of 15 μ.

Cl. crosslandii Cotton (original description inaccessible), as re-described by Corner (l.c. 230), is different in that the flesh is darker than the hymenium and the spores smaller and differently shaped.

Cl. daulnoyae Quél. (1891. 7) may be told from *greleti* by its cespitose growth whitish stem and ellipsoid spores.

Cl. fumosa Pers. ex Fr. (1821. 483), according to Corner, belongs to the subgenus *Syncoryne*, since it lacks the clamps at the base of the basidia. The spores, moreover, are narrower.

Cl. fuscescens Fr. (1855. 116) is clearly distinct from *greleti* on account of its habitat (ad truncos putridos), its much branched habitus and filiform branches.

Cl. nebulosoides Kauffm. (1926. 118) may be readily distinguished by the presence of cystidia and the smaller and more slender spores.

Cl. nigricans Lloyd (1917. 729), if it is a *Clavaria* at all, which Lloyd himself felt very uncertain about, looks totally different from *greleti* in having a slender stem and a capitate fruiting portion with plicate surface.

Cl. nigricans Vel. ex Pilát (1948. 283) which, it should be noticed, is a later homonym of the former species, can be told from *greleti* by the cespitose growth, the ramification of the fruitbody and the globose, yellowish spores.

Cl. pullei Donk (1933. 86) which Donk stated to differ from *greleti* in the rugulose hymenium and the smaller spores may prove to be no *Clavaria* after all, considering the fact it has 1-guttate spores (Corner).

Cl. rufobrunnea Coker (1947. 43) has, apart from a different colour, a tufted growth and much smaller spores.

Cl. striata Pers. ex Fr. (l.c. 483) which various authors do not agree upon, is, unfortunately, not represented in Persoon's herbarium, but to judge from Persoon's plate (1798. tab. 3, fig. 5) which shows a cespitose, very pale plant, *greleti* cannot be the same.

Cl. tenacella Pers. ex Fr. (l.c. 472) is, as may be gathered from the original description of Persoon, hardly a *Clavaria* on account of the tough flesh (see also Corner).

Cl. tonkinensis Pat. (original description not seen) seems too incompletely known to allow any conclusions.

The above species have been discussed in some detail since so many of the dark Clavarias, *greleti* not excluded, appear to be imperfectly known. However, obscure as many of the descriptions may be, there is little doubt that our specimens cannot be referred to any of the species mentioned other than to *greleti*. It is true, there are some points in the original description of this species which do not match our material (cylindrical, non-compressed and non-fistulose clavula; very short basidia), but I think that the discrepancies are mainly due to Boudier having based his description on a single collection. Corner to whom I had submitted a specimen and the description expressed his doubts as to the importance of the shape of the clavula "because it can vary so much. Young fruit-bodies of many species are slender, while the older become flattened, fusiform and, often, hollow". As for the great difference between the size of the basidia given by Boudier (17 μ long) and myself (45–60 μ), I should like to point out that Bourdot & Galzin who, better-fated than Corner, studied the

original specimen, found the length of the basidia to be 16–30 μ. Even so there is a large, and as yet inexplicable, gap between their measurements and mine, but in the absence of any other important difference – I do not regard the difference between the size of Boudier's and our carpophores as essential – I feel convinced that our specimens are referable to *Cl. greleti*.

New to the flora, and probably the first record since the type collection.

Noord-Holland: Castricum, Geversduin, 3 X 1954, *Swanenburg de Veye*, among grass and moss, edge of *Pinus*-wood in the dunal area (L).

Zuid-Holland: Wassenaar, Meiendel, 8 X 1954, Mrs. *Fehr*, in the dunes (L).

Polyporus coronatus Rostk. in Sturm, Deutschl. Fl. 3^{28}: 33. 1848.

There is little agreement as to the taxonomic status of this fungus. To mention only a few instances, Bourdot & Galzin (1928. 525) gave *coronatus* subspecific rank, whereas Pilát (1936. 91) never rated this polypore higher than a mere forma. Bondartsev in recent times (1953. 442) considers it to be a species of its own. Although it is hard to say whose point of view is nearest to the truth, there are certainly some points in favour of regarding *coronatus* as a distinct, albeit small, species which is well separated from *P. squamosus* by the following features. In contrast with the latter, *coronatus* is mesopodous and of constantly small dimensions, whereas to my knowledge it has never been reported from living trees. According to Bourdot & Galzin the two last named characteristics should not be seen disconnected, but it seems unaccountable then that I have seen neither specimens nor descriptions of specimens which with regard to their habit and substratum are intermediate between *coronatus* and *squamosus*. In this respect *coronatus* does not resemble in the least what Bresadola (1892. 27) once described as *P. squamosus* f. *erecta*. I quite agree with Graff (1936. 161) that the latter is "a purely ecological variation". It is worth mentioning, too, that whereas *squamosus* is very common in Europe, *coronatus* is decidedly rare, whereas there is no record at all of this species in more recent American literature (Graff, 1936; Overholts, 1953).

Furthermore, Dr Donk kindly informed me he has an example of *P. squamosus*, collected on dead wood and in the open, which had produced those peculiar antler-like structures rather than developing the small pileus typical of *P. coronatus*.

Bondartsev's reasons for keeping both species separate may be enumerated as follows. The pileus in *coronatus* is smaller, less robust than in *squamosus*. The pores are slightly larger. Whereas the black zone at the base of the stem in *squamosus* is a feature of constant occurrence, it is not in *coronatus*. The tramal hyphae of *coronatus* are 1.5–5(8) μ wide and thin-walled, those of *squamosus* 4–8(9) μ wide and as a rule thick-walled.

None of the characters mentioned above both by Bondartsev and by me are in themselves sufficiently differential, but considered in conjunction their importance cannot be denied.

The colour of our specimens is intermediate between those shown by Malençon (1929, under the name of *Leucoporus Forquignoni*) and Rostkovius (l.c. tab. 17), and as described by the former they lack the black zone at the base of the stem. Rostkovius described that black base, but his plate shows a concolorous one. Probably not too much weight should be attributed to this character.

Not previously recorded.

Zuid-Holland: Leiden, "Nieuweroord", 13 V 1954, *Van Ooststroom 17598*, on the ground (presumably on buried sticks) in a wood of *Acer*, *Alnus*, *Fraxinus* (det. Donk) (L).

Polyporus forquignoni Quél. Assoc. Franç. Avanc. Sci. 5. 1884 (reprint).

Except for the fact that the hyphae of the flesh are thinwalled – thinner-walled indeed than equally small specimens recently collected in Northern France – our material is in perfect agreement with the description given in Bourdot & Galzin (1928. 526).

Both *Polyporus coronatus* and *P. forquignoni* show their close relationship to *P. squamosus* in that they are anatomically similar. As drawn by Corner (1953. 160–161) for *P. squamosus*, they all have in common flexuous, wide, clamped generative hyphae from which tapering binding hyphae arise laterally and at the proximal and distal ends.

Nor previously recorded.

Zuid-Holland: Oegstgeest, "Oud-Poelgeest", 7 VIII 1955, *Bas 796*, in lawn (presumably on buried stick) under *Fagus* (L).

Ochroporus ribis (Schum. ex. Fr.) Schroet. f. **evonymi** (Kalchbr.) Schroet. in Cohn Kryptog. – Fl. Schles. 3^1: 486. 1888 – *Polyporus evonymi* Kalchbr. Math. Termesz. Közlem. **5**: 261. 1867.

Donk (1933. 254) recorded a single collection of this form which is still present in Herb. Oudemans. The label mentions the date of 1899.

Considering the fact that the host, *Euonymus europaeus*, is of fairly common occurrence in this country, not infrequently developing to considerable size, it is surprising that no finds have been reported since, nor material received.

Zuid-Holland: Wassenaar, "Zuidwijk", 30 X 1954, *Bas 706*, at the base of *Euonymus europaeus* (L).

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